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STATE AGRICULTURAL COLLEGE

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THE STATE AGRICULTURAL COLLEGE: WHO SHOULD SEEK ITS ADVANTAGES?

BY PRES. GEO. T. FAIRCHILD.

THE nature of the training at our State Agricultural College needs only to be understood to be appreciated by a multitude. While it offers such training in agriculture and mechanic arts as the sons of farmers and tradesmen have a right to expect from an institution endowed "to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life," it emphasizes the side of liberal education by giving thorough courses of study along with the training. It even makes such training a part of a liberal education by enlarging acquaintance with the everyday arts of life. The College therefore offers its services to

FARMERS' SONS.

It receives young men from their farm homes, with such equipment as their district schools can give, and opens the way to genuine growth in knowledge and ability to use knowledge from the start. It gives both the means of education and the incentive to study in direct contact with the results of study on the farm, in the gardens, and greenhouses. From the beginning of the course to the end, a true progress is evident in the very art of thinking, which makes education on the farm desirable and available.

FARMERS' DAUGHTERS

are equally well provided for in a course of study parallel to that taken by their brothers. In this they find genuine interest in all surrounding things. They grow in ability to appreciate the work of the world by their study, and at the same time cultivate domestic arts, which add to the effectiveness of such work everywhere. Without breaking away from the earnest life of the country, they at once begin a growth in sympathy with true civilization and the home building upon which all genuine civilization is founded.

MECHANICS' SONS

are well provided for in ways that they can at once appreciate. Whatever their bent, they find the College course a direct aid to their growth. The classroom drill in studies—mathematics, drawing, and physical science—fits into their thoughts upon their life work and supplements their training in the shops. The distinction between school and shop is largely abolished when the thoughts of both tend toward individual growth—real education.

MECHANICS' DAUGHTERS

are as well provided for as farmers' daughters. They can find room beside their brothers for just the growth which quickens ingenuity, stimulates sympathy with work, enlarges ability, and qualifies for genuine home making. Their studies are a genuine introduction to the science of life, because they enable students to handle the things of which life is full. Science here is knowledge of things rather than statements about things, and they go from the course interested in the problems which all the arts must solve.

EVERY YOUNG MAN OR WOMAN

who wants a genuine preparation for earnest, useful life in any calling will find the elements of such a preparation here. In recent times the true spirit of self development is emphasized in education. Ready-made learning is shoddy. To do in order to be is the chief requisite of growth. In the fields, shops, greenhouses, museums, and laboratories of the State Agricultural College doing is a part of studying. While a most excellent library, earnest literary societies, abundant athletic drill, and pleasant social relations make student life exhilarating and enjoyable here as everywhere, a double zest and energy are given by seeing that the world moves along the same lines of growth that they are following.

STUDENT LIFE

at this College is genuine life, with all conditions as natural as it is possible to make them with so large a body of young people together. They live in families; they are individually responsible for conduct as in any community; they mingle with citizens in churches, Sunday schools, and society; they have personal contact with teachers and officers of the College; the rules for students are rules of good society; the machinery of discipline is simply reasonable. Morally the record of the Agricultural College is above reproach in every particular.

TRIBUTE FROM OLD FRIENDS.

GOOD words from graduates and former students are a grateful testimony always, but are especially pleasing after years of experience have taught the meaning of life as well as of lessons. The following are samples received within the few days past:—

From a graduate among the '80's: "I appreciate my school training more and more every day. The first year after leaving Manhattan, it seemed a useless schooling to me, but the longer and harder I work, the more value it seems to me. As you can see, I am living a business life."

From a graduate who has since taken a course in law: "Though I spent two years there, I did not forget my allegiance to K. S. A. C., and feel that I got the right view of morality of student life there."

A former student about to enter another State Institution, writes: "I very much regret that I cannot be at Manhattan, but with the exception of my brother, the family did not wish it."

Another writes, a sample of many letters: "I have found it impossible, on account of the scarcity of work, to return to College this fall, but I expect to teach a few months in order to get money to go on."

History and Resources of the College.

An act of Congress, approved July 2, 1862, gave to each State public lands to the amount of 30,000 acres for each of the Senators and Representatives in Congress according to the census of 1860, for the "endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Under this act, the State of Kansas received 82,313.53 acres of land, and, in 1863, established the State Agricultural College, by endowing with these lands Bluemont College, which had been erected two miles from Manhattan, under the auspices of the M. E. Church, but was presented to the State for the purpose named in the act of Congress.

In 1873, the College was reorganized upon a thoroughly industrial basis, with prominence given to practical agriculture and related sciences; and in 1875 the furniture and apparatus of the College were moved to the farm of 219 acres, one mile from the city of Manhattan. On this location the State has provided buildings valued at \$210,000. The farm and grounds, furniture, stock, and other illustrative apparatus, are valued at \$165,000. The present value of buildings, grounds, apparatus, etc., is almost exactly equal to the sum of all appropriations by the State. All the lands have been sold, giving a fund of \$502,927.35, which is by law invested in bonds, the interest alone being used for current expenses of the College.

The annual income from the endowment fund—about \$30,000—is supplemented by an appropriation under an act of Congress approved August 30, 1890, of \$15,000 for 1890, and a sum increasing each year by \$1,000 until the annual amount shall be \$25,000. This fund is "to be applied only to instruction in agriculture, the mechanic arts, and the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their application to the industries of life, and to the facilities for such instruction." "No portion of said moneys shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings."

All expense of instruction is thus provided for, and the State is left to erect and maintain the necessary buildings and meet expenses in management of the funds.

Under the act of Congress, approved March 7, 1887, the College receives, by general appropriations in Congress, \$15,000 each year for the maintenance of an Experiment Station, "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." The property of the Station, including a building erected especially for its use, amounts to more than \$10,500.

Should a young man go to the agricultural college or learn of some competent and successful farmer? The answer should be, "Both." Let the young man go to the farming school and get a good broad training. Then let him work a year or two for the best farmer he knows. The student who adopts such a plan will be heard from.—Fairfield (Me.) Journal.

Fancy Farmers.

One so often hears the remark disparagingly made, "Oh, he's a fancy farmer," that it would seem that some deleterious effect on the farming community must result from having in our midst "fancy farmers."

I believe that practical farming and dairying have received a great impetus from the work of "fancy farmers."

The "fancy farmer" as a rule, is a man of means, who takes up farming as a recreation. He brings to bear on his undertaking a vast fund of energy and usually approved business methods. Unfortunately, he too often lacks practical knowledge of farming or dairying, and, unless he is unusually cautious, permits his enthusiasm to run riot with his good judgment. Apt as his business training makes him to readily size up the situation, he soon settles down to less extravagant methods, but still continues to adopt such progressive modes as his more mature judgment convinces him will produce better and more economic results. He has the capital to step out boldly on untrodden paths, and if he has the persistence to adhere to his newly chosen calling, or pastime, generally lands on his feet.

With ample means to reach his goal, the "fancy farmer" is not usually deterred from attempting new methods, and though he may not succeed, the ordinary farmer will draw valuable deductions.

If successful, he will bring to light new and economic methods, which, with his ever cautious nature, the farmer is slow to take hold of, but will eventually adopt to his own material advantage. The "fancy farmer" gives employment to a large number of men, and his neighborhood is composed of a community depending almost solely upon him for a livelihood.

An untold amount of good has been accomplished for agriculture through the experiment stations, but great as is the work that has been performed by them, it is largely augmented by such "fancy farmers" as the Hon. Levi P. Morton, Theodore A. Havemeyer, Frederick Bronson, and a score of others. One of the latest exponents of improved methods of farming, stock raising, and dairying is C. I. Hood, of Lowell, Mass., who, with his beautiful farm and superb Jersey herd, is, by an unstinted expenditure of money, doing much to advance the interests of farming and dairying.—E. Fuller, in *New England Farmer*.

Science and Agriculture.

The progress of science in its application to agriculture is amazing. The book farming of today is not dispraised as was the "fancy farming" of years ago. Only last week we referred to the probable discovery of a blight that may kill off the Canada thistle. Every fruit-grower and nurseryman, who is working for all the money there is in the business, now protects his crops against blights and insects by spraying with mixtures, which a few years ago were unknown. The application of fertilizers is now well understood by Eastern farmers, and their practices are spreading more rapidly through our Central and Western States than the ordinary farmer may think.

Our dairy scientists will soon be able to supply us with a "starter" for cream that shall propagate by the million the species of bacteria which have been found to be the cause of the most exquisite butter flavor and aroma. That bacteria working on the roots of clover and other leguminous plants enable them to take nitrogen from the air has come to be generally known, but now we find that different kinds of plants require different species of germs to accomplish this result. At our own Illinois Experiment Station, Albert Schneider has gone still further, and hopes to cross-breed or hybridize these microscopic forms of life, so as to get variety adapted to each of our farm crops. His experiments have in fact progressed so far that he says the bacteria of the clovers are capable of being modified to such an extent as to develop root cells on the corn plants and enable corn to get its nitrogen from the air. As nitrogen in fertilizers costs twelve to eighteen cents per pound, and an abundance of it would enormously increase production; great are the possibilities of this kind of work. It may take years to bring these things within reach of the practical farmers, but by all means let the good work go on.—Orange Judd Farmer.

True Education for Practical Life.

At the Bowdoin College commencement, the oration was delivered by Chief Justice Fuller of the National Supreme Court. In discussing a practical education, he said:—

"It has been said that college education unfits for practical life and business affairs; but it is difficult to see why in any walk of life, in any field of exertion, in any department of trade, of commerce, or of business, the trained intellect and disciplined mind should not be sure to tell, although, of course, there will be educated men who fail, but not by reason of their education. If Cyrus Hamlin was qualified here to found a college amid the greatest difficulties in a far-off land, did not his Bowdoin training likewise enable him to literally superintend the actual erection of his college buildings; to bake bread for divisions of the Crimean army; to wash the clothes from the

army hospitals? Was that education unavailing when he cast his own steam-pipe for his mill, and shut himself up with his forge, good charcoal, a can of oil, and Ure's dictionary of arts, and tempered the points of his steel picks? Are not the interests of science and industry identical? and is this any the less so because to obtain the highest ends, truth must be sought for its own sake?

"When after less than seventy years of the century of the college had passed, the integrity of the nation was threatened, and the experiment of self-government on an imperial scale trembled in the balance, was there any debilitating influence derived from the cultivation of letters or the possession of academic education, that withheld the sons of Bowdoin from their country's call?"

Nitrogen From the Air.

The most expensive element of plant food is nitrogen. The market price of nitrogen in chemical fertilizers is now about sixteen cents a pound. Any process that will produce it in large quantities and reduce the price will prove of inestimable value in agriculture. Nitrogen is absolutely necessary for keeping up the fertility of cultivated land, and for the renovation of worn-out soils. There are boundless quantities of it in the atmosphere, but only a few plants, like clover, have the power, with the aid of certain microbes on their roots, to take it from the air and store it up in the soil.

If the claims of a New York inventor are true, there soon will be cheap nitrogen for farmers and a revolution in agriculture. He claims to have invented a process of making fuel gas from coal, crude oil, steam, and air, by which large quantities of sulphate of ammonia are turned out as a by-product. The nitrogen in this sulphate of ammonia is now worth \$60 a ton. The inventor claims that by his process the cost of producing the gas will be more than covered if the by-product of sulphate of ammonia sells as low as \$20 a ton. It is said that the process has proved to be successful in an experimental way, and that it will soon be tested on a large scale.—*Farm and Fireside*.

New Demands on Farmers.

O. S. Graves at the New York Dairymen's Association, well says: "We have been making progress, but today the vital demand comes for better farmers, neater farms, purer stables, cleaner milk, richer butter and cheese, more attractive home surroundings, and sweeter firesides. Let us arise to a higher appreciation of our calling. Let us assume the heaven-designed dignity of our vocation. Let us compel more of the head and less of the hands to accomplish our important mission. The scientific farmer is the successful farmer of the future. The hap-hazard farmer is the 'DeWitt Clinton' who must stay in the rear and keep off the track. Let us then enter every open door for a better education and better comprehension of our arduous work."

Occupations of Graduates.

The number of graduates is 358, of whom 120 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of bachelor of arts. Since 1877, all have received the degree of bachelor of science, after a four-years course in the sciences, with good English training.

Of the 238 men, 6 are deceased, and the remainder are reported in the following occupations:—

Farmers.....	34
Fruit growers and nurserymen.....	11
Dairymen.....	2
Professors and instructors in Agricultural Colleges.....	7
Assistants in Agricultural Experiment Stations.....	5
Assistants in U. S. Department of Agriculture.....	3
Secretary State Board of Agriculture.....	1
Teachers and students of special sciences.....	10
Veterinary surgeons.....	3
Mechanics.....	4
Civil, electrical, and mechanical engineers.....	10
Contractors and builders.....	3
Architects and draughtsmen.....	4
General business men.....	15
Merchants.....	12
Painters.....	6
Telegraph operators and railroad agents.....	4
Photographer.....	1
Superintendents of public schools.....	5
Teachers in public schools.....	41
Teachers in Indian schools.....	1
Students in other institutions.....	5
Officers in U. S. army.....	2
Observers in the U. S. weather service.....	2
Physicians and students of medicine.....	6
Druggists.....	2
Dentists.....	2
Editors.....	10
Ministers.....	7
Secretary Y. M. C. A.....	1
Lawyers and students of law.....	22
Officials and official clerks.....	5
Railway postal clerks.....	3
Unknown.....	1
Total.....	253
In two occupations.....	21
	232

Of the 120 women, 4 are deceased, and the remainder are occupied as follows:—

Housewives.....	43
At home.....	12
Instructors in sewing.....	2
Teachers in household economy.....	4
Teachers in public schools.....	32
Bookkeepers.....	3
Teachers and students of special sciences.....	6
Teachers of music.....	2
Teachers of art.....	2
Clerks or stenographers.....	4
Printers.....	2
Milliner and dressmaker.....	1
Assistant librarian.....	1
Hospital nurse.....	1
Student in other institutions.....	1
Editor.....	1
Unknown.....	1
Total.....	118
In two occupations.....	2
	116

Occupations of Students who Pursued the Course beyond the First Year, but did not Graduate.

In 1892, requests were sent to all students not then in attendance who have been catalogued since 1877 as "second-year students," who did not complete the course, to report their present occupation, and the one they expect to follow permanently. About 600 were addressed, and 45 per cent responded. Undoubtedly a large number failed to receive the request, because of change of residence, of which we had not been informed.

	MEN.		WOMEN.	
	Total.....	Per cent of total reporting.....	Total.....	Per cent of total reporting.....
Farming:				
Present.....	71	39		
Future.....	64	35		
Housekeeping:			41	47
Present.....			33	38
Future.....				
Other Industries:				
Present.....	23	13	5	6
Future.....	15	8	5	6
Office work and commerce:				
Present.....	45	24	4	5
Future.....	32	16	3	3
Professions:				
Present.....	14	8	3	3
Future.....	34	18	5	6
Teaching:				
Present.....	19	10	25	28
Future.....	10	5	29	33
Students elsewhere: Present.....	12	7	7	8
Students here: Future.....	4	2		
Undecided: Future.....	25	13	12	14
Married.....			33	38
No occupation: Present.....			2	2
Total reporting.....	184		87	

Labor and Earnings.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour's daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their ability and means.

All labor at the College is under the direction of the superintendents of the department, and offers opportunities for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with the services rendered, from 8 to 10 cents an hour. The superintendents strive to adjust their work to the necessities of students and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses.

The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

Calendar.

1894-95.
 Fall Term—September 13th to December 21st.
 Winter Term—January 8th to March 29th.
 Spring Term—April 1st to June 12th.
 June 12th, Commencement.
 1895-96.
 Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Prof. Popenoe and family are visiting near Topeka.

Prof. Hitchcock is in St. Louis for treatment of his eyes.

Mr. and Mrs. Breese are visiting relatives in Elmdale.

Miss Rupp has spent the summer with her invalid parents at Terre Haute, Ind.

Secretary Graham has kept his vacation at home, chiefly by brief daily respite from office duties.

The *Kansas Farmer* has published during the summer several of the graduating theses of the Class of '94.

Prof. Hood's family enjoy their newly acquired horse and buggy, even though the dust be deep and stifling.

Mr. Breese has moved into Prof. Kellerman's stone house just north of the one he has occupied for two years past.

Prof. and Mrs. White returned last week from Chicago, where they took special studies in social science and literature at Chicago University.

Miss Harper has been at home in Manhattan during vacation, gathering strength for the coming year's grind in mathematics.

Prof. Hood has added to his residence property by purchase of another lot adjoining his on the north and a twenty-five foot strip on the south.

Mr. Geo. Webb, of Columbiana, Ohio, chosen foreman of the Iron Shops, has found it impossible to make arrangements to accept the position.

Prof. and Mrs. Nichols are pleasantly located near Chicago University, where the Professor devotes himself to studies in the physical laboratory.

Regent Secrest is nominated for Representative in the Legislature from Riley county, on the Populist ticket. No better selection could have been made.

The steam plant is completed, and a test of the system shows no deficiencies. Power is furnished for the first time today to the Printing Department.

Pres. and Mrs. Fairchild rested for a few weeks of the heated term at Excelsior Springs, Mo. Mrs. Fairchild's health is somewhat improved by the change.

Prof. Olin aided in a wide-awake Teachers' Institute at Alma during June and July. Mrs. Olin and the children spent two weeks of the heated term at Ottawa.

Prof. J. W. Rain, Instructor at this College in 1891-2, was married at Oberlin, O., on August 14th, to Miss Harriet May. Prof. Rain remains at Oberlin as Instructor.

Regent Hoffman is one of the Board of Directors of the United States Equipment Company recently incorporated to construct, operate, and lease cars, engines, etc., for railroads.

Foremen Baxter and House took a brief vacation this month in Colorado, where they found a cool and damp contrast with the heat and dust to which they returned all too quickly.

Student friends of Rev. Mr. Drake will regret to learn that he has resigned the pastorate of the Congregational Church. He will work in the evangelistic field, but will make Manhattan his home.

On July 24th last the College was honored by a visit from the Master of the National Grange, the Master of the State Grange, and the Master of the Manhattan Grange, accompanied by a number of friends.

Prof. Willard, tired of living in other people's houses, is building one for himself on his lots opposite the southeast corner of the College grounds. The old house has been moved back and made over into a stable.

Prof. Lantz has been busy for several weeks in moving the College library to its new quarters. This work will be completed today, and the Professor will enjoy a brief visit to Colorado where he will attend the Irrigation Convention.

Dr. Mayo was called to Decatur county last week to investigate an outbreak of hog cholera. Inquiry proved the disease to have been introduced from Nebraska. On Wednesday last the Professor visited the large Pitney Ranch in the northeastern part of Pottawatomie county, where twenty head of cattle had recently died from a disease which he at once

pronounced that plague of herds, Texas fever. Many other animals of the herd are infected, and it would not be surprising if the disease spread. State Veterinarian Pritchard is at the ranch today.

Mrs. Kedzie, after attending the Ottawa Assembly in June, visited her relatives at the Michigan State Agricultural College, and is this week attending the meetings of the American Association for Advancement of Science in Brooklyn, N. Y.

Frank D. Tomson, of Dover, Kansas, has leased Prof. Platt's fine residence property on College Hill, and is moving this week. Mr. Tomson and his wife expect to take a complete course in the Agricultural College, hence his object in coming here.—*Mercury*.

Prof. Failyer is named as a delegate from this State to the Interstate Irrigation Convention at Denver, September 3d. He will take time in Colorado to visit various places where irrigation is most successful, as well as the State Agricultural College at Fort Collins.

Prof. B. F. Nihart, of White City, has been elected Dean of the Normal Department of Kansas Wesleyan University at Salina. The Professor was in the Chair of Engineering at this College for several years, and has since been Principal of the Herington Schools.

Prof. Brown has spent most of the summer at Leavenworth, looking after his interests in the Musical Conservatory, but will go east with the G. A. R. excursion to Pittsburg, stopping for a brief visit at Oberlin, O., where he spent a portion of his student life.

Prof. Hitchcock was called from Florida to the bedside of his mother, who died in July, from stoppage of the bowels. The funeral service was conducted by Rev. Mr. Pickett and Prof. Lee, and the remains were followed to the grave in the Manhattan cemetery by a large concourse of sympathizing friends.

Assistant Sears is managing the weather during the absence of Mr. Breese, and though doing his best to break the record of previous weeks for heat and drouth, finds himself still at the mercy of circumstances; for an occasional cloud and a few sprinkles have reduced his score a trifle below the maximum.

Prof. Georgeson this week visits the irrigation experiments in Garden City. He writes from Emporia that he has secured from Mr. Cross, the noted breeder of Hereford cattle, a young Hereford bull, "College Beau Real" son of the famous "Beau Real" and a "perfect beauty," to head the College Herefords.

The following from the Topeka *Advocate* refers to Regent Hoffman of this College: "C. B. Hoffman, of Enterprise, is always doing something. He is now getting ready to irrigate two hundred acres of land near that place, which he proposes to divide into ten-acre lots and lease to twenty families for gardening. This is an experiment which may benefit a great many people."

Prof. Thos. E. Will, who takes the Chair of Political Economy on September first, is a graduate of Harvard College, and for the past year has had his home in Boston, Mass., where he has been giving a course of lectures upon economic questions. He was for a time a professor in Lawrence University at Appleton, Wis., and is of western birth and breeding, his early home having been in Illinois.

Yesterday's Topeka *Capital* reports that the Russian thistle has gained a foothold in Riley county. If this be so, we have not heard of it, and we would like to have reports from any part of the county where the pest has gained a hold.—*Mercury*. A plant of this pest was collected by student botanists, Misses Grace Clark, '92, and Margaret Horn, '93, near the lower Rock Island Railway bridge over the Wild Cat, early in July. The specimen stood alone on the railroad company's right of way, and is the only one so far as known in the county. It was gathered before the seed had ripened, and there was no danger of the thistle spreading from this source, which cannot be said, however, of mature plants with ripened seed shipped here for identification from a distant part of the State.

GRADUATES AND FORMER STUDENTS.

A. B. Kimball, '89, is re-elected Principal of the Scandia Schools.

H. N. Whitford, '90, is elected Principal of the Wakefield schools.

Carl E. Friend, '88, writes from Soldier, Kan., where he is president of a thrifty bank.

Leon Nagels, First-year in 1892-3, plans a course in pharmacy at the State University during the coming year.

Nellie P. Little, '90, will spend the next year at Yale College in post-graduate studies, literary and historical.

A. Deitz, '85, hangs out his sign, of a prosperous mercantile business at 2402 Fairmount Avenue, Kansas City, Mo.

W. C. Moore, '88, editor of the Junction City *Union*, was married to Miss Mima E. Rhodes at Sulphur Springs, Ark., July 11th.

Bessie B. Little, '91, is attending a noted school of physical culture in New Haven, Conn., and will spend the coming year in special studies there.

The many Manhattan friends of John U. Higinbotham ['86] will be glad to learn that he has been promoted to the position of treasurer and director of Hyde Park Gas Co., at Chicago. He began with

this company two years ago as book-keeper, and by his efficiency and business-like qualities earned this important promotion.—*Nationalist*.

E. Ada Little, '87, was married, August 1st, to Mr. E. J. MacEwan, Professor of English and Modern Languages in the Utah Agricultural College.

Arthur F. Cranston, '90, graduated from the law school of the State University last spring, and has entered upon a prosperous practice at his home town, Parsons, Kansas.

Lyman H. Dixon, '88, was married in Buffalo, N. Y., August 15th, to Miss Helen Gertrude Oatman. They will be at home after October 1st at 2884 Main St., Buffalo, N. Y.

P. H. Fairchild, '86, makes his home again at "The De Soto," 93 Halsey St., Brooklyn, N. Y., but may be found in business hours at his publishing office, 24 Park Row, New York City.

Miss Abbie Marlatt, '88, for three years past Professor of Domestic Economy at Utah Agricultural College, Logan, has resigned to accept a like position in the High School of Providence, R. I.

C. G. Elliott, student in 1886-7, is practicing medicine at Blackwell, O. T. In a recent letter he speaks of having met twenty former students in the county. A fruit farm near town occupies his spare time.

Miss Laura G. Day, '93, was elected Instructor in Sewing in the Girls' Industrial School at Beloit during the summer, but after two months' service resigns to accept a place as Assistant in Sewing at her Alma Mater.

Miss Pearl Dow, ['91,] has secured the 500 subscribers to the *Ladies' Home Journal*, and will leave in a few days to take the musical course offered by the publishers of that paper in the New England Conservatory of Music.—*Mercury*.

D. G. Fairchild, '88, is making a tour of the Burmese Alps this month, collecting Alpine flowers. He is on his way to the Island of Corsica upon commission from the U. S. Department of Agriculture to collect cions of citrus fruits.

E. F. Nichols, '88, who was married, June 16th, to Miss Katherine W. West, of Hamilton, N. Y., is settled with his wife at Cassel, Germany, for a year's study in physical science, during leave of absence from his chair in Colgate University.

Dates are missing, but during the summer babies came to the homes of F. A. Waugh, '91, and Alice Vail-Waugh, '92; F. C. Burtis, '91, and Louise Daly-Burtis, '93; W. W. Hutto, '91, and Maude Parker-Hutto, Third-year in 1892-3; Jacob Lund, '83.

Lieut. J. G. Harbord, '86, accompanied by his friend, Lieut. Simmons, spent a couple of days among old friends at the College and town on their return from a horseback tour from Fort Leavenworth to Mr. Harbord's former home in Lyon County.

Board Meeting.

The regular quarterly meeting of the Board of Regents was held on July 17th, 18th, and 19th. All were present, and shared in the routine of auditing accounts and inspecting the premises.

The Secretary reported the cancellation of the contract for NW ¼ 20-14-1, and the terms of lease to be executed for the same. The matter was referred to Regent Hoffman for further investigation, the lease to be executed upon a favorable report.

The Secretary also reported the present condition of the work on the new building and the steam plant in charge of the State Board of Public Works.

The Board spent sometime in consultation with candidates for the Chair of Political Economy, three being present.

The Committee on Employees offered the following report, which was adopted:—

Your Committee on Employees, having been authorized by resolution to recommend a suitable person for the Chair of Political Economy, as provided in the last meeting of the Board, and to invite such a person or persons to appear before this Board at this meeting, report that after correspondence with various parties, Prof. Thos. E. Will was invited and is present at this meeting. The Committee have also considered the names of other applicants for the position, namely, Rev. V. H. Biddison, of Marysville, Kan., and Pres. Chas. O. Merica, of Maryville, Mo. After full consideration of the men and their testimonials, we recommend that Prof. Thos. E. Will be employed as Professor of Political Economy, with such other duties as may be practicable, at a salary of \$1,600 for the year beginning September 1st next.

We further report the approval, according to resolution, of the choice of Foreman of the Iron Shop, made by Prof. Hood, of Mr. George Webb, of Columbiana, Ohio, with service to begin September 1st next, at a salary of \$800.

The Committee on Finance presented a report upon the present and prospective condition of the Treasury, estimating the probable income for the year ending June 30th, 1895, for College purposes \$50,486.96, for Station uses \$15,000.

The Committee on Employees then called from the table portions of a report laid over, and Miss Julia R. Pearce, Assistant Librarian, was made Librarian and placed in the list of Instructors, Prof. Lantz being relieved of the duties of Librarian. Prof. Hood was authorized to employ Jacob Lund as fireman and steam-fitter at a salary of \$600. Upon recommendation of the same committee Miss Laura G. Day was employed as Assistant in Sewing, vice Miss Bessie B. Little, resigned, at a salary of \$30 a month, and the salary of D. H. Otis, Assistant in Agriculture, was increased from \$40 to \$50 a month. It was further ordered that the salary of Prof. J. T. Willard be equally divided between the College and the Station funds.

Estimates for Station expenditures were approved, and Prof. Failyer was authorized to purchase sup-

plies and apparatus from the estate of Prof. Hougham according to an estimate presented to amount of \$30. Pres. Fairchild was authorized to purchase a telephone to take the place of the one for which the contract has expired, and to advertise the College in the Topeka *Weekly Capital*, the *Advocate*, and the *Kansas Farmer*, at a cost of twenty dollars for each. The purchase of a wind-vane was authorized at a cost of five dollars.

A petition from students that a uniform be adopted, to be worn by all students taking drill, with reasons for the request, was fully considered and not granted.

The Board adjourned to meet on Tuesday, September 25th, at 3:30 P. M.

The Weather for July.

Temperature.—The mean temperature for July, 1894, was 77.55°, which is .9° below normal. In the thirty-six preceding years, nineteen Julys have been warmer and sixteen cooler than the one just past, the extremes being 86.87° in 1860, and 72.04° in 1891. (The record for 1873 is missing). The maximum temperature was 109°, on the 24th and 25th; the minimum, 52°, on the 10th and 22nd—a monthly range of 57°. The greatest daily range of the thermometer was 53°, on the 26th; the least, 18°, on the 4th. The warmest day was the 26th, with a mean of 90°; the coldest, the 4th, with a mean of 67.25°. The mean of the observations at 7 A. M. was 69.26°; at 2 P. M. 92.10°; at 9 P. M. 74.45°. The mean of the maximum thermometer was 95.9°; of the minimum, 62.61°, the mean of these two being 79.26°.

Barometer.—The mean pressure for the month was 28.86 inches, which is .07 inch above normal. The maximum was 29.035, inches at 7 A. M. on the 2nd; the minimum, 28.62 inches, at 2 P. M. on the 27th—a monthly range of .415 inch.

Rainfall.—The total rainfall was 2.27 inches, which is 2.39 inches below normal. There were only three days in which rain fell—the 4th, 14th, and 31st—while the average number of rains for July is eight. The total rainfall for the seven months of 1894 completed is 14.91 inches, which is 4.18 inches below normal.

From the 23rd to the end of the month was a most disastrous period to corn, pastures, and stock-water—probably the hottest of like duration ever experienced in this locality. There was only one day during this time that the thermometer registered below 100°, the highest being 109°. This excessive heat, with the hot winds that accompanied it, literally parched growing vegetation, many of the trees losing their foliage, and apples dropping badly. As a result the outlook, which had been bright, especially for the corn crop, which promised magnificently, is now gloomy indeed, many farmers having no corn whatever, and the fodder being of the poorest quality.

Cloudiness.—The per cent of cloudiness for the month was 22, which is 13 below normal. One day, the 14th, was entirely cloudy, one five-sixths cloudy, three two-thirds cloudy, two one-half cloudy, five one-third cloudy, six one-sixth cloudy, and thirteen clear.

Wind.—The wind was from the south eighteen times; south-west seventeen times; south-east thirteen times; east ten times; north eight times; north-east seven times; north-west one time; west one time; and a calm eighteen times at the hour of observation. The total monthly run of the wind was 6150 miles, giving a mean daily velocity of 198.39 miles and a mean hourly velocity of 8.27 miles. The maximum daily velocity was 490 miles, on the 26th; the minimum, 64 miles, on the 5th. The maximum hourly velocity was 28 miles, between seven and eight on the forenoon of the 26th.

The following table gives a comparison with the preceding Julys:—

JULY.	Number of rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858.....	12	6.50	S	80.85	100	66	.....	.....	.....
1859.....	6	4.99	S	80.49	104	62	.....	.....	.....
1860.....	5	2.09	SW	86.87	115	65	.....	.....	.....
1861.....	8	6.08	SW	78.10	94	64	.....	.....	.....
1862.....	9	3.83	S	79.43	103	65	.....	.....	.....
1863.....	15	4.54	SE	75.60	92	58	.....	.....	.....
1864.....	10	3.02	SW	81.97	101	61	.....	.....	.....
1865.....	11	6.42	SW	75.55	93	50	.....	.....	.....
1866.....	5	3.27	SW	80.73	96	64	.....	.....	.....
1867.....	9	5.42	S	74.73	95	59	.....	.....	.....
1868.....	9	4.70	S&SW	82.93	98	67	.....	.....	.....
1869.....	7	6.27	SW	72.81	93	58	28.82	29.05	28.50
1870.....	4	2.98	SW	84.42	102	65	.....	.....	.....
1871.....	11	5.03	SE	77.35	96	62	.....	.....	.....
1872.....	15	8.92	SW	77.98	98	62	.....	.....	.....
1873.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874.....	2	1.8	S	82.39	110	57	28.76	28.93	28.44
1875.....	14	3.33	S	75.23	93	57	28.73	29.06	28.52
1876.....	6	5.73	SW	77.05	95	51	28.79	29.00	28.54
1877.....	6	4.16	SW	77.43	100	47	28.78	29.04	28.55
1878.....	9	12.71	SW	78.59	95	51	28.79	28.95	28.50
1879.....	7	4.91	SE	79.97	98	67	28.74	28.91	28.57
1880.....	8	3.78	S&SW	76.01	92	55	28.67	28.86	28.46
1881.....	3	1.32	SW	81.13	103	64	28.68	28.88	28.33
1882.....	9	7.73	NW&SW	72.68	98	49	28.69	28.94	28.49
1883.....	8	4.15	S&SW	77.14	98	54	28.54	28.76	28.33
1884.....	8	5.64	E	76.87	99	54	28.65	28.83	28.42
1885.....	9	4.99	SW	77.54	99	54	28.65	28.83	28.42
1886.....	4	2.84	E	78.82	106	55	28.87	29.02	28.67
1887.....	4	.90	S	80.74	110	40	28.85	29.02	28.68
1888.....	5	4.41	S	80.08	107	58	29.15	29.22	28.89
1889.....	8	8.14	.....	75.15	98	50	29.08	29.28	28.88
1890.....	8	2.89	E	81.92	107	54	28.76	29.04	28.68
1891.....	14	5.51	S	72.04	93	50	28.90	29.21	28.57
1892.....	5	3.88	SW	77.32	106	50	28.86	29.15	28.52
1893.....	9	4.29	S	78.60	101	54	28.78	29.01	28.52
1894.....	3	2.27	S	77.55	109	52	28.86	29.04	28.62
Means.....	8	4.66	SW	78.45	100	57	28.79	29.01	28.55

The Experiment Station.

To show the appreciation in which the work of the Experiment Station is held by the farmers of Kansas, a few extracts from the several thousand letters lately received by the Secretary are given:—

Attica. "Would be glad to receive your bulletins as they are issued. Think there is a great deal of information to be gotten out of them."

Arlington. "Am highly pleased with the Station work."

Atwood. "I appreciate the work of the Station, and will be glad to have my name retained on your mailing list."

Argentine. "Please continue the bulletins. They are good. No. 40 on grapes is very good."

Anthony. "I am much pleased with the work the Station is doing, and want my name continued on the list."

Abilene. "I have learned a great deal from the bulletins. Please continue to send them."

Atchison. "I take pleasure in looking over the bulletins, and derive much valuable information."

Antelope. "Would be very sorry to have the bulletins discontinued."

Antrim. "The bulletins of the last year have been received, and have been found most interesting and useful."

Atchison. "Please continue my name on your list. I thoroughly appreciate the valuable work done at your Station."

Atchison. "Your Sixth Annual Report is certainly a pattern of neatness and information. I am interested in a good many farm lands in Kansas, and should very much miss your bulletins, which to me are full of interest."

Burton. "Shall be pleased to receive future publications of your Station which I appreciate very highly."

Bennington. "I have received the Sixth Annual Report of your Station, for which accept my warmest thanks."

Baldwin. "I have gladly received your bulletins. They are very useful. I am very thankful to you for them."

Belleville. "I wish to say that I receive both pleasure and profit from your reports and bulletins, and would greatly regret not to receive them."

Belleville. "I find your bulletins are very interesting and valuable."

Barns. "I appreciate the work of the Station, and would like to have them continued to my address."

Coldwater. "Please accept my sincere thanks for Station publications received."

Centralia. "Please keep my name on your revised list. Any publication you have for distribution I am glad to accept, as I gain valuable information from them."

Courtland. "Please accept my thanks for your publications. I have been farming in this county for thirteen years, and appreciate anything that will assist me in my work. Please keep me on the list."

Cheney. "I have been very much interested in your reports for the past two years, and think them very instructive."

Chanute. "I am very thankful for your bulletins and reports, and would like to have my name continued on your lists."

Chetopa. "Many thanks for the bulletins and reports. Please continue my name on your lists. I appreciate the reports very much."

Circleville. "I am in receipt of your bulletins ever since the first issue, and appreciate their useful information very much."

Caldwell. "I find a great deal of useful and interesting information contained in the reports and bulletins."

Cuba. "I have learned to value highly the bulletins and reports, and especially request that you will continue to send them to me."

Charlotte. "I thank you for the favor of sending me bulletins and reports in the past, and hope for their continuance."

Cherryville. "Please continue my name on your list of beneficiaries. I am much interested in the majority of the matter I have received from you."

Chaplin. "I value your reports and bulletins very highly."

Comet. "Your reports are very interesting reading to me, and in many cases of great practical benefit."

Council Grove. "I have received your reports and bulletins, and have read them with pleasure and profit, especially the last one on corn, No. 45."

Clay Center. "Am farming, and make it pay; and want to learn all I can from the experiments of others. Anything on the reports of farming will be thankfully received."

Chase. "I have all but a few of your bulletins filed away for future reference."

Dinnison. "Am much pleased to receive all the publications of your Station."

Dwight. "I am very thankful for your reports sent me. I find them very instructive indeed."

DeSoto. "I make a careful study of your reports, and wish my name kept on your mailing list."

Delphos. "Am trying to make a living and more off of a farm near here, and hence am anxious to learn the result of your experiments in the hope of putting them to practical and profitable use."

Derby. "Have been very much interested in your bulletins of the past year."

Dodge City. "Please accept thanks for your Sixth Annual report, as well as for bulletins received during the year. I have made good use of all the seeds and publications received from your Station."

Emmons. "Your reports are highly appreciated, and I wish to be considered in your new list."

Bradford. "I have been very much interested in the publications of the Station during the past year, and want my name continued on your list."

Emporia. "I further wish to say that the work of

your Station is most fully appreciated by our business men as well as by the farmers."

Emporia. "The reports are highly appreciated." Atchison County High School, Effingham. "I take a great deal of interest in the State Agricultural College. As our pupils are mostly farmers' boys and girls, I feel that we ought to keep close in touch with the Agricultural College. I would like to place in our school library all of the bulletins and reports of the Experiment Station that we can obtain."

Freeport. "Reports received for which please accept my profound thanks. These reports are of great interest to me as I am a young farmer and desire to obtain all the information possible in this my chosen profession."

Fredonia. "I wish my name continued on your list, as I value the bulletins very highly."

Fort Scott. "Please continue the bulletins. I take a good deal of interest in them, and would not like to do without them."

A NEW BLACKBOARD COMPASS.



The Mechanical Department has produced a new blackboard compass which can be sold for a small price. They have been in use for the past two years and have given satisfaction. They are made of

seasoned cherry, highly finished and with an improved joint, presenting a large friction and binding surface. Knurled brass clamping nuts on each side of the head. Handy to have. Handy to use. Handy to care for. Get one. 75 cents each, 6 cents extra for postage. Address O. P. HOOD, Supt., Manhattan, Kan.

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DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

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Historical society

AND STUDENTS.

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COLLEGE GROWTH FOR 1894.

[Report of the President of the Kansas State Agricultural College to the Secretary of Agriculture and the Secretary of the Interior, as required by act of Congress of August 30, 1890, in aid of Colleges of Agriculture and the Mechanic Arts.]

THE College year of 1893-94 has been a prosperous one in the stability of an efficient Faculty, and attendance fully up to reasonable expectations, though very slightly less than in the previous year, by a falling off in the first-year class, an excellent body of post-graduate students, a greatly enlarged provision for Departments of Botany and Zoology, with library and museum facilities for all departments, and an improved course of study. The new building will be ready for occupancy before the opening of College in September, and promises superior advantages for an increased number of students.

During the winter a course of 36 lectures to farmers was given at the College and attended by some forty farmers, mostly from the immediate neighborhood. Fifteen farmers' institutes were held in various parts of the State, under the auspices of the College, without aid from State funds. The College Faculty also aided largely in the meetings of the State Board of Agriculture and the State Horticultural Society.

The work of the Experiment Station has continued prosperously in most respects along the line of previous investigation. A special experiment in irrigation from 30-foot wells by wind-power has begun in the southwest part of the State, and another is planned for in the northwest where water is more than twice as far below the surface. The bulletins issued during the year 1893 have been as follows: No. 39, August, "Experiments in Feeding Steers, II;" No. 40, August, "Experiments in Wheat;" No. 41, December, "Effect of Fungicides upon the Germination of Corn;" No. 42, December, "Experiments with Oats;" No. 43, December, "Experiments with Sorghum and Sugar Beets;" No. 44, December, "Further Study of Native Grapes;" No. 45, December, "Experiments with Corn;" No. 46, May, 1894, "Rusts of Grain, II." The annual report contains a very instructive summary of the records for thirty-six years past of rainfall and temperature arranged in periods of ten days, thus indicating quite distinctly the various droughts and wet spells, hot and cold days, length and peculiarities of seasons, etc.

The outlook for increased attendance and superior work through added accommodations and facilities is excellent. The immediate need will be an increase of means to do the work demanded.

RECEIPTS FOR AND DURING THE YEAR ENDED JUNE 30, 1894.

State aid.—Appropriations for building or other special purposes.....	\$ 77,310 88
Federal aid.—Income from land grant, act of July 2, 1862.....	29,460 78
For experiment stations, act of March 2, 1887.....	15,000 00
Additional endowment, act of August 30, 1890.....	19,000 00
Fees and all other sources.....	6,107 44
Total receipts.....	\$146,879 10

EXPENDITURES.

College of Agriculture and Mechanic Arts.....	\$138,407 21
Experiment Station.....	15,000 00
Total expenditures.....	\$153,407 21

PROPERTY AND EQUIPMENT.

Agricultural—Farm and Horticultural departments—value of buildings—barns, greenhouses, etc.....	\$ 18,000 00
of other equipment.....	30,000 00
Total number of acres.....	319
Acres under cultivation.....	250
Acres used for experiments.....	150
Value of farm lands.....	30,000 00
Mechanical department, value of buildings, shops.....	15,000 00
of other equipment.....	18,000 00
All other departments,* value of buildings.....	156,000 00
of other equipment.....	110,000 00

*These other departments are a part of the College of Agriculture and Mechanic Arts, which is wholly separate from all other institutions.

FACULTY.

	Male.	Female.
Collegiate and special classes.....	25	7
Number of staff of Experiment Station.....	15	—
Total, counting none twice.....	30	7

STUDENTS.

	Male.	Female.
Collegiate and special classes.....	333	198
Graduate courses.....	14	11
Total, counting none twice.....	347	209

LIBRARY.

Number of bound volumes, June 30, 1893.....	13,644
Pamphlets.....	3,610
Bound volumes added during year ended June 30, 1894.....	1,218
Total bound volumes.....	14,862
Total pamphlets.....	3,610

GEO. T. FAIRCHILD, President.

REPORT OF TREASURER.—FUND OF 1890.

Balance on hand July 1, 1893.....	\$ 61 00
Date of receipt of installment for 1893-'94, August 9, 1893.....	—
Amount.....	19,000 00
Total available for the year ending June 30, 1894.....	\$19,061 00
Disbursements thereof for and during the year ended June 30, 1894:—	—

Agriculture, as per Schedule A.....	\$ 3,121 06
Mechanic Arts, as per Schedule B.....	4,649 25
English Language, as per Schedule C.....	3,433 31
Mathematical Science, as per Schedule D.....	3,299 38
Natural or Physical Science, as per Schedule E.....	4,556 67

Total expended during year.....	\$19,060 27
Balance remaining unexpended July 1, 1894.....	73

I hereby certify that the above account is correct and true and, together with the schedules hereunto attached, truly represents the details of expenditures for the period and by the institution named, and that said expenditures were applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their application in the industries of life and to the facilities for such instruction.

ED SECREST, Treasurer.

SCHEDULE A.—Disbursements for instruction in Agriculture and for facilities for such instruction, during the year ended June 30, 1894.

For salaries of Professors in Agriculture and Horticulture, in part, with three assistants.....	\$3,100 06
Machinery.....	21 00
Total.....	\$3,121 06

SCHEDULE B.—Disbursements for instruction in Mechanic Arts and for facilities for such instruction, during the year ended June 30, 1894.

For the salaries of Professor of Mechanics, and two Foremen.....	\$3,186 67
Machinery.....	1,442 58
Stock and Material.....	20 00
Total.....	\$4,649 25

SCHEDULE C.—Disbursements for instruction in English Language and for facilities for such instruction during the year ended June 30, 1894.

For the salaries of Professor of English Language and Literature, and two Assistants.....	\$3,433 31
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SCHEDULE D.—Disbursements for instruction in Mathematical Science and facilities for such instruction, during the year ended June 30, 1894.

For the salaries of Professor of Mathematics, Professor of Industrial Drawing, and Assistant.....	\$3,299 38
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SCHEDULE E.—Disbursements for instruction in Natural or Physical Science and for facilities for such instruction, during the year ended June 30, 1894.

For salaries of Professor of Chemistry, and two Assistants, Professor of Physiology, and Professor of Botany.....	\$4,556 67
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AN ENTHUSIASTIC REPORT ON SOY BEANS.

PORTAGE, WIS., Aug. 7, 1894.

PROF. C. C. GEORGESON, Manhattan, Kansas.

Dear Sir—I received the soy beans this spring, but was so busy I had no opportunity to acknowledge receipt until late, when I concluded to wait until after harvest and then make a full report. But there are so many inquiries from farmers of this State about the bean that I have determined to write and ascertain if I can obtain them in quantity from you, and will let you know about the beans at the same time.

I planted a piece of ground 150x60 feet, rows 30 inches, and beans two inches in the row, the above plot being on a hillside all fairly good loam, with about a tenth in the middle (on the rise) the hardest of hard pan.

Just before the plants began to show, we had a heavy snow and sleet storm, and when they were about two inches high they were treated to a heavy frost, which did no further damage than to curl the leaves slightly, they being surrounded by trees to some extent; I also attribute the little damage to the fact that being near the railroad they were protected by the smoke.

The plot has had no manure for over three years, having been allowed to grow up to weeds during that time, so I thought that would be just the place to try the soy beans to prove their drouth-resisting qualities, and my expectations have been more than realized. We had a ten hours rain. June 15th, and two light sprinkles since, and that is all the rain we have had since planting, but they have not suffered, though the temperature has been up to 104° in the shade twice, and ranged for several weeks at 80° to 100°.

Today these grand beans are as green as green may be, even on the hard pan, although there they are not quite so high as on the lower edge; the five last rows on the lower side will average three and one-half feet in height, and the first eight about three feet, some plants that I have measured being within a fraction of four feet. At the same time the stems are literally studded with blossoms and pods, giving the promise of an abundant yield provided we do not get an early frost, which we have had indications of, having had the thermometer down to 40° F. at five o'clock in the morning two times last week.

My field (on a small scale) of beans has attracted more attention than a circus this season, and I am more than delighted with them, nothing I have ever raised giving me such pleasure. Yesterday I took an old gentleman (a retired first-class farmer, by the way) out to see them, and it did my heart good to see the look of surprise that spread over his placid old face, when he beheld them. He would take hold of a plant and smooth it down with his hand and say, "Pretty, pretty, pretty," and just dream with his eyes, and

when we left he turned around for a last look and repeated it.

I wish now that I had put in a couple of acres. Next year I shall put in ten to fifteen acres, for to my mind they are the thing for this sandy soil.

Our county fair opens the eleventh of next month, and I intend to make an exhibit of garden stuff, giving a very prominent place to the soy beans. The latter I shall show in four different ways, such as raw beans, baked beans (I am having an immense pan made three feet in diameter for this), browned and made into coffee, and the plant as it grows. I may also go to the State fair at Milwaukee, and do the same, if I can get suitable space. I shall also issue a circular setting forth the many virtues of the plant, with cultural directions, and to that end I wish to ask you if you have any objections to my using your article on the bean, as given in the *Farm, Field, and Home*, as I consider it covers the whole subject so far as necessary. I intend to have a photograph taken of my garden and bean field, which I shall have enlarged, and as soon as done I will send you a copy of each. Yours truly, W. BURT FOX.

Is Country Life Lonely?

In the *North American Review* for July, C. H. Crandall asks the question that heads this article. He relates an instance of a young couple that tried country life and abandoned it with disgust. The subject of the isolation of the farm and the loneliness of farm life has for recent years been a fruitful theme for discussion among philanthropists and socialists. Mr. Crandall himself arrives at the conclusion that it is a good thing sometimes to be alone. The lone tree is the broad tree, rugged, strong, defiant. He adds:—

"One's lonesomeness in the country depends largely upon one's will, one's attitude toward the country. If you begin country life feeling that you are a foreigner to it, and never intend to be naturalized, then you doom yourself to dislike it. Nature will never adopt you into her larger liberties unless you will be adopted, and the shy denizens of bush and brake will never greet you as a fellow citizen. But if you drop this alien spirit and resolve to conquer the country life by openly surrendering to its charms, then you win a gratifying success."

Such a surrender as Mr. Crandall refers to fell to the lot of Bayard Taylor. He tells us that "the child that has tumbled into a newly plowed furrow never forgets the smell of the fresh earth." He says, "The aroma of the soil tintured my blood." He concluded to purchase a farm. After the purchase he makes this reflection: "My life had now a point d'appui, and standing upon these acres of real estate it seemed an easy thing to move the world. A million in bank stock or railroad bonds could not have given me the same sense of tangible property."

Donald G. Mitchell at the end of a sentence in his "Wet Days" says, speaking of farmers: "I cannot but regard their serene philosophy and their quiet, thankful, and Christian enjoyment of nature as something quite as much to be envied as the distinctions of towns. Parodying the Lord's prayer, he says, 'Lead us not into the cities.'"

The power of nature on the human mind is expressed in one of Emerson's sentences: "The land with its tranquilizing sanative influence is to repair the errors of a scholastic and traditional education."

The earth, as Socrates termed it, is our "foster mother." We not only draw bodily nourishment, but mental and moral food. Here law runs in infinite variety and is reflected in a thousand forms that the farmer has to do with, be he the least inclined to see and think. That country life is not inherently lonely is demonstrated in universal yearning for it by all men of reflection. In this generation this has been seen in land ownership by such men as Beecher, Greeley, and Evarts, and a long line of brilliant men and women, and now that the feverish, mad rush for wealth has cooled a bit and man is beginning to repose once more, it is seen in the increased purchase of country estates by denizens of the cities of wealth and culture.

In what causes originates the opinion that country life is lonely? The Roman villas and English manorial estates testify to a deep love of country life by the aristocracy of past ages. If there has been any change from the old order of society it can be traced to a cause. The discovery of America was the herald of a new order of events. The tiller of the soil became its owner, and the owner became a resident on his acres. These acres were limited. A large retinue of laborers and a city mansion became a part of this new industrial social system.

When at last evolution of machinery drew all those who did not obtain their subsistence directly from the soil to the city, country life lost its old time diversity. This loss must be admitted. The serious question is, has it no counterpoise? Viewed beneath the surface, we believe that the future will have more of inherent attractiveness in rural life than the past.

The road machinery, the perfection of vehicles and the road horse, all of which the farming community possess, has made the drive from country to towns easy, quick, and pleasurable. Its reflex action on social life of the country is seen in the disappearance

of distinction of dress and manners of city and country cousins.

Evolution of the sciences applicable to farm life have made it unquestionably the most complex, intellectual, and fascinating of the industries, calling into play in the employment of labor, selling of products, balancing the laws, and conducting all the operations of the farm more of the powers of body and mind than any other occupation. It is these facts that have led Morton, Gould, and Vanderbilt and other millionaires to employ the highest talent to evolve farms that will be a mental pleasure. Machinery that has driven men to towns and robbed the country of population is reducing the hours of labor on the farm and has substituted not only the mowing machine for the scythe and power cultivators for the hand hoe, but is placing books in our hands. These have made every thing in the soil, air, barn, and dairy full of life and companions because the centers of interesting forces that make the farm one of the play of intellect rather than the play of muscles. This relieves the farm of the drudgery of endless hours. Labor has given to us not only books and periodicals and the pleasure of pursuing them, but is giving to us the opportunity and gradually the disposition to cultivate social relations with our neighbors and with our city cousins.

We believe that we are passing out of the ebb tide of farm loneliness, and that the farm will be surrounded not only with the intellectual charms, but that its social estate will be largely if not wholly restored.—*Mirror and Farmer*.

Moderate-sized Farms.

It is becoming demonstrated beyond dispute that the farms that are the most profitable are those of medium size. The same energy and amount of fertilizer that is expended on 150 acres will accomplish more if concentrated on 60 acres, and the result will be a greater profit with much less labor. Besides this, the distribution of the amount of fertilizer over the less number of farm acres will not only maintain soil fertility, but by judicious management may be induced to increase the richness of the land. This cannot be the case on large farms, where lack of means induces the farmer to stretch out over several acres the amount of fertilizer that would only properly cover a few acres. On large farms the farmer is taxed for fields that do not actually produce enough to pay the tax which has to be paid on them. What would be thought of the merchant having two warehouses and using one, and paying rent for the other, with no use for it?

The farmers are in many instances following just such a plan. A prominent agriculturist who has traveled all over the United States declares that if on an average one-half the farmers in this country would sell from one-fourth to one-half the number of acres of their farms and expend the money in improving the acres they had left there would be an era of prosperity never before known. Of course, this agriculturist calculated that with the fewer acres the farmer would go into diversified farming—and not follow out the old regime of sticking to one or two crops. The new departure would enable many farmers to raise everything they need except groceries and dry goods, and with many this would at once bring a profit where now annual loss prevails. A. B. Barrett, in *American Cultivator*, on moderate-sized farm says:—

"One of the improvements in our farming that we are gradually tending to is to divide the large farms up into small ones, and as cities grow up and the rural districts become more thickly populated the size of the farms decrease and the number increase. In every new country the first phase of agriculture is for the farmers to own enormous lands, which they attempt to cultivate more or less thoroughly. Land is cheap, and the cost of a hundred acres is less than a ten-acre farm near the cities. This system of large farm holdings seems essential to the first stages of farming in any country, but gradually it disappears.

"In the East the majority of our farms are small compared with those in the West, and they are constantly decreasing in size. This, instead of being an unfavorable change in agriculture, is really beneficial. One of the curses of our farming system has been the spreading out so that no part of the farm has been thoroughly cultivated. It costs more to cultivate indifferently a large acreage than it does a small one very thoroughly, and the returns are larger in the second than in the first instance. In the first case the land also deteriorates in fertility, while in the latter it improves. Many farmers, however, cannot be induced to accept this, or at least they do not give up half their farm and devote more time to the other half. The gradual settlement of the country alone makes them adopt small farms in preference to large ones. The high price of land and consequent high taxes soon show them the wisdom of selling as much off the farm as possible, and redoubling their efforts in making the small farm produce more than ever before.

"The present hard times show that the farmers who have small holdings get along better than those with large farms. It is an easy matter for the farmers on limited acres to change the method of their work, and to grow crops that will suit the home market. On the large farms there are only a few staple crops that they can raise, and if these decline in price they have to suffer severely, and then very likely be forced to continue the cultivation of the same kinds of products. The most profit comes from the small

farm in many ways. Taxes are smaller, less hired labor is required and less expensive machinery. The farmer has the whole machinery of his farm under his control, and he can watch the leaks of the business, and reduce expenses in many ways. In times of commercial depressions large business firms that are compelled to be under heavy expenses to conduct their business at all suffer more than the small firms where a small paying business can be carried on successfully. The same applies to the large and small farms. In the future the number of small farms must rapidly increase, and the large ones will correspondingly decrease."—*Baltimore Sun*.

Gospel of Better Methods.

Twelve years ago our 5,000,000 farms were worth \$10,000,000,000, and they produce yearly crops worth more than \$4,000,000,000. We talk of the poverty of the farmer, but by the census of 1880 the stock on the farms alone was worth over \$1,500,000, and by statistics which we have over at my department today, our live stock is worth nearly twice as much now. We know how to prevent diseases of stock, and we have gained in better breeding and better feeding. Today our best beef is sold at two years old. It was not many years since beef was not thought to be beef unless the animal was at least four years old, and yet the meat of the two-year-old beeves of today is of the finest quality, and it surpasses in weight the average four-year-old of twenty years ago. Where beeves can be turned off at half the time, a man can raise twice as many off the same land, and the early maturity of our mutton and swine is today as marked as that of our beef. It is the same in all branches of farming, and I believe that that the prosperous era of the farmer is just beginning. The people of this world have to be fed, and their food must come from the soil. We have 65,000,000 people here today. Twenty years from now and we will have 100,000,000, and in less than two generations 200,000,000 Americans will wake up every morning in these United States and cry to the farmers for breakfast. We could get fifty per cent more off our lands if we farmed them in the right way, and if we did not add another acre to the area now under cultivation, we would make our agricultural production half again as large as it is. Take the matter of wheat alone. If we were to bring our lands by means of fertilization and cultivation up to the standard of the wheat land in England, or even those of Belgium, we would double our average annual wheat crop without increasing our wheat area a single acre. It is so with other things, and as the country grows older and the population increases we will have better farming. Farming is fast becoming a science in the United States. The farmers are studying more, and they know more today than ever before. They have better advantages for study.—J. M. Rusk.

Enemies Sometimes Friends.

An old English writer once said that weeds were a benefit to every farm. This startling assertion called the venerable gentleman to account. Well, he said, in substance, if the farmer had no weeds to fight on his farm he would not pay half the attention to the crops. He fights the weeds to give strength to the growing crops, and this battle is not only doing effective work for the plants, but keeps the ground in excellent condition. Without this constant working, the soil would soon become sterile.

So it is in poultry keeping. Enemies are sometimes our friends. Lice, mites, rats, weasels, disease, etc., put us to work. We fight them, and in working hard to exterminate the trouble we help our stock along, and the profits are more sure. Neglect gives our enemies full scope. Carefulness puts them to rout. When the poultryman is indifferent he makes a failure of his crop, just like the farmer does when he allows the weeds to grow and choke up the tender plants.

Ask the merchant why his success, and he replies, on account of careful and hard work. There are no weeds, nor lice, nor disease in the dry goods business, but there are enemies just the same, and the careful merchant puts them out of the way as fast as they appear. It is so with all branches of trade, but in no occupation is eternal vigilance more necessary than in the different branches of farming and live-stock growing.—*Live-Stock Indicator*.

The Farmer's Boy.

Charles Dudley Warner says: "The farmer's boy is the one who spreads the grass when the men cut it; he stores it in the barn, rides the horse to cultivate the corn up and down the hot, weary rows; he picks up the potatoes when they are dug; he is the one who totes all the water and wood, and tires his back out splitting kindling. No matter where he is, in the house or out, there is always work for him to do. Before he goes to school in winter he shovels the paths, and in summer turns the grindstone. The farmer boy has a happy life, in spite of all; and he is the stuff great men are made of. If it were not for the fresh young blood of the country, I am afraid the city would run to seed."

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Prof. White's classes this year will be in the room over the library in the new building.

Regent Stratford has been afflicted with serious illness, and has visited Eureka Springs, Ark., for hastening convalescence.

Regent Secrest spent the afternoon and evening of Thursday in looking over absolutely necessary repairs and improvements in connection with the opening of College year.

This week has been one continuous "moving day" for the departments of Entomology and Botany, but everything will soon be put to rights in the commodious quarters provided in the new building.

The boys of the Horticultural Department met and vanquished a ball club made up of other employees of the College in a game played the first of August; but were beaten later in an engagement with the College Hill team.

New bicycles gladden the hearts of Misses Julia Pearce, and Lora Waters, though the beginners agree that the pesky things seem possessed of a mania for seeking the bottom of ditches and there bucking their riders off.

The State Examination in progress this week calls to the College Miss Eliza Nagle of Topeka, Mr. Frank E. Mullen of Clifton, and Mr. John Mustard of Talmage, graduates of other institutions. Of our own graduates, A. Dickens and Lucy H. Waters are struggling with the questions.

Mr. H. K. Brooks of Topeka comes to take the place of Foreman of the Iron Shops, September 5th. Mr. Brooks has had an excellent training for such work in various parts of the world, and receives the best of recommendations from Supt. Preyer of the Santa Fe Shops and others acquainted with him in Topeka.

The fund of \$20,000 received by the College under the Morrill Act of 1890 became available in the State Treasury August 1st, and relieved the College Treasury directly. The annual appropriation for the U. S. Department of Agriculture including \$15,000 for each State Experiment Station was approved August 9th, but the quarterly payment from the U. S. Treasury has not been received.

Janitor McCreary thought that the surgical operation he underwent in Chicago last summer had cured him permanently of facial neuralgia, but the disease re-appeared several months since, and gradually growing worse, makes a second operation for the removal of a facial nerve necessary. Mr. McCreary went to Chicago Wednesday, and after the operation expects to spend at least two weeks in the hospital.

It is with pleasure the INDUSTRIALIST reproduces the following extract from the Olathe *Patron's* report of Commencement exercises at the Deaf and Dumb Institute. The tone of the paragraph agrees with all reports of Mr. Stewart's work as Superintendent. Old readers will remember that Mr. Stewart was Superintendent of Printing at this College from 1874 to 1881: "We must not forget Mr. Stewart, who has acquitted himself in a way to bring praise from all sources. Mr. Emery, the founder of this School, said yesterday that the present Superintendent was a grand, good man, and that not one new beginner in a dozen could have equaled him in this closing of school. The secret is in his genial, kind nature, which has won the heart and esteem of every pupil, teacher, and employee; and from largest to smallest, each considers it a special favor to be of service to the head of the school. The result is obvious—for in union there is strength."

President George T. Fairchild of the State Agricultural College lectured Wednesday evening, June 27th, before the teachers' institute on "The Art of Seeing." The speaker said that we were apt to regard seeing as a matter beyond the control of our wills; that we see without any effort, just as we exist. He gave several illustrations to show that such was not the case. Two men have equally good eyes, yet one sees vastly more than the other. The speaker described the eye using a large object made to represent the eye. He showed that the eye in mechanical appliances very closely resembles the camera of the photographer. The eye is the machine. The owner of the eye is the owner who uses the machine. Two persons look at a primrose. One sees only the flower, and that imperfectly. The flower to the other man calls up thoughts on the growth and development of the plant and of life itself. The difference between the enlightened man and the savage is that one sees more than the other. The speaker made an earnest plea for the cultivation of the art of seeing.—*Westmoreland Recorder*.

GRADUATES AND FORMER STUDENTS.

Emma E. Glossop, '83, made a brief call at the College Thursday.

W. O. Lyon, '93, teaches a forty-dollar school in Clay County this year.

J. N. Harner, '92, will spend next year at the State Normal School at Emporia.

S. N. Chaffee, '91, called at the College Wednesday with a view to taking up a post-graduate course.

M. W. McCrea, '93, writes from Bostwick, Neb., where he expects to teach the same school he had last year.

Among the pleasant calls of neighborly graduates this week have been those of Delpha M. Hoop, '91, and Mayme A. Houghton, '91.

T. E. Lyon, '93, called this week. He will care for the home farm at Keats this fall, and later take post-graduate study at College.

Lucy H. Waters, '94, takes a portion of the State examination this week at the College, with a view to completing it another year.

W. H. Edelblute, '92, of Farmington, Wash., has been nominated by the Republicans for County Surveyor in Latah County, Idaho.

Grace Clark, '92, the up-to-date clerk in the President's office, has just returned from a well-earned outing in the Southern part of the State.

C. K. Peck, Second-year in 1892-3, taught last year at the Absentee Indian School, Sac and Fox Agency, I. T. He will re-enter College this year.

Minnie Reed, '86, talks of making her future home in California, where she expects to teach. She is spending a vacation at the family home at St. Clere.

E. C. Parker, Second-year in 1887-8, having with his father sold the *Nationalist*, plans a mercantile business in a Missouri town yet to be chosen.

S. I. Wilkin, Third-year in 1891-2, writes from Bow Creek that his brother and sister will return to College this fall, while he himself will take care of the farm.

Rachel Caroline Conwell-Thoburn, '91, of Peabody, Kan., is visiting her old home near Manhattan for a few weeks, and called upon old friends at College on Thursday.

G. L. Melton, '93, deals in insurance at Winfield, Kansas, but reports a yield of forty bushels an acre of Zimmerman wheat from College seed upon his farm near the City.

Gertrude Coburn, '91, has been spending a few days in Manhattan before returning to her successful work in the Stout Manual Training School at Menomonie, Wis.

Marie B. Senn, '90, is appointed instructor in Domestic Economy at the Agricultural College of North Dakota, at Fargo. Her course for the second degree, finished in 1893, pointed toward such work.

A. Dickens, '93, is taking the State examination at the College this week for the certificate provided for graduates under the law of 1892. He has "farmed it" at home in Rice county since April, but will teach the coming year at Bushton.

F. H. Avery, '87, is a candidate in Clay County for the office of Clerk of the District Court. Whatever may be the result of the election, the fact that such men as Mr. Avery are candidates for county offices speaks well for the future administration of public affairs.

C. H. Thompson, '93, Instructor in the Shaw School of Botany, Washington University, St. Louis, spent his vacation in Manhattan, with almost daily visits to the College. On his return to St. Louis, he will take up study as non-resident post-graduate in Botany and Horticulture.

A. A. Mills, '89, Assistant in Agriculture at Utah Agricultural College, offers through the Fair Association a premium of \$25 for the best paper on "Our National Experiment Stations: object, the practical results of benefit to the farmer and fruit-grower, and the best method and line of future work."

D. W. Working, '88, Secretary of the Colorado State Board of Agriculture, presents his compliments in a very neat booklet on "Farmers' Institutes; Hints about organizing them," in which he shows his loyalty to his Alma Mater in quoting for an outside page our standing suggestion, "A good education pays."

Abbie L. Marlatt, '88, begins her work as teacher of Domestic Economy in the High School of Providence, R. I., in a few days. Her success in similar work at the Utah Agricultural College proves her fitness for the new place. She is the second of our graduates to be invited into similar responsibility for New England cooking.

Will It Pay to Soak Corn?

This is the question asked in the summary of Bulletin No. 47, from the Farm Department, detailing experiments in steer-feeding. The question is answered thus:—

"Whether the answer to this question will be a yes or a no will depend upon circumstances. The foregoing facts prove that steers get more out of soaked corn than they do of dry corn, and that the reverse is true of the hogs which follow. It will not pay to

soak corn whenever it is necessary to take the precaution against freezing that we were obliged to take in this experiment, nor is it likely to pay if it involves more extra labor than can be done by the regular force in charge of the cattle. But when a feeder is so situated that the corn can be soaked at slight expense, this experiment would indicate that it is a profitable practice, at least during mild weather.

"In conclusion, the facts brought to light by this experiment may be summarized as follows:—

"1. The five steers fed on soaked shelled corn gained a total of 1,632 pounds in 150 days on 282 bushels of corn, while the five steers fed on dry corn gained a total of only 1,468 pounds on 290 bushels of corn.

"2. The steers fed on soaked corn, owing to their better condition, brought a higher price in the market than the steers fed on dry corn. Balancing both cost of feed and market value of the two lots, there is a difference of \$25.50 in the favor of the soaking of the corn.

"3. The hogs following the steers fed on soaked corn made a total gain of 635 pounds, while the hogs following the dry-corn steers made a total gain of 747 pounds. This makes a difference of 112 pounds gain in favor of the dry corn, and the market value showed a difference of \$5.58 in favor of the hogs following the dry-corn steers.

"4. Based on the foregoing figures, it will pay to soak corn if it can be soaked for 6 cents, or less, a bushel."

Awards at the Columbian Exposition.

The College has received official notice of awards at the World's Columbian Exposition:—

Industrial Work: "Remarkable for excellence and completeness in every direction, and especially for the manner in which the Agricultural College comes into touch with the farmers of the day by its institutes, and by the publication of a paper, THE INDUSTRIALIST."

Varieties of Onions: "Remarkably fine display, suitable for any market."

Grapes: This display of grapes was granted an award and honorable mention through the Kansas State Horticultural Society under whose auspices the display of varieties was made.

Course of Study: This received especial mention from the individual judge, Mrs. Julia S. Tetwiler, as most complete in details of work undertaken and accomplished, but by mistake of some kind the official award miscarried. Dr. S. H. Peabody, Chief of the Department of Liberal Arts, writes to the Committee in Charge of the Exhibit: "I believe you are right in thinking that the award should go to the Agricultural College. I have written to Mr. Thacher about it, but fear the effort to correct will be of no avail."

Revised Course of Study.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside. Students in irregular courses are expected to take the equivalent for the required duties of the term; variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two:—

[Numerals denote number of class hours per week. When no work outside of class is required, italics are used.]

FIRST YEAR.

Fall	Algebra, 5.
Term	English Analysis, 5.
14 weeks.	Botany, 5.
	Free-hand Drawing, 3.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, 4.
Winter	Algebra, 5.
Term	English Composition, 5.
12 weeks.	Bookkeeping, one-half term, 5.
	Law, 1.
	Geometrical Drawing, one-half term, 5.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, 3.
Spring	Algebra, 5.
Term	English Structure, 5.
10 weeks.	Elementary Physics, 5.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, 5.

SECOND YEAR.

Fall	Geometry, 5.
Term	Horticulture, 5.
14 weeks.	Inorganic Chemistry, 5. Laboratory work, 2.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, 4.
Winter	Geometry, one-half term, 5.
Term	Projection Drawing, one-half term, 5.
12 weeks.	Agriculture, for young men, 5.
	Household Economy, for young women, 5.
	Organic Chemistry, one-half term, 5.
	Mineralogy, one-half term, 5. Laboratory

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THE STUDENT.

BY PRES. GEO. T. FAIRCHILD.

ATTENDANTS upon colleges and professional schools are by common consent called students. Yet not all, by any means, accomplish the work of a student in the true sense,—a successful searcher after knowledge. Some are by nature dull, "born so," for whom neither can wealth buy capacity nor diligence supply its absence. Some are too brilliant, so that dazzled by their own brightness, they find no need of study. Some are too busy to study: politics of societies, social converse, friendly gossip, story-reading, and even daily toil, consume both time and energy. Some have no care for study or its fruits, but come to college because they are sent, because it is the proper thing in their set, or because they have nothing else to do. Some are failures simply from ignorance: they have not learned how to study. Every student at the end of his course sees how little he knew of the best ways of study at the outset, and often makes the remark, "If I had only known how, what I might have accomplished in the four years!"

The genuine student has always and everywhere a somewhat distinct conception of

HIS PURPOSE.

This purpose is the foundation of energy. At first it is simply the general one, to know—to know instead of to guess, or even to believe. A genuine student intends to be one who knows, in all the possibilities of knowledge. He takes to books as the source of knowledge, possibly with little power to distinguish the true from the false. But this purpose leads to the clearest distinctions, and makes the student a questioner. From books he turns to teachers, and from teachers to the sources of knowledge in nature, always questioning, "How much of this do I know, and how do I know that I know it?"

At a second stage of progress in a student's development his purpose changes by fixing more definite limits to the knowledge sought. The sea of knowledge embraces particular continents of exploration, and each student finds a place of importance to explore. It may be the accident of favorable conditions that determines his choice, but a genuine student somehow discovers the impossibility of grasping all knowledge and the more intense interest of certainty in special sciences. The purpose is simply carried to its natural outcome from a larger acquaintance with the extent of knowledge. If this definite purpose is formed too early, it is likely to develop a pedant instead of a student, to cultivate conceit instead of humility, and so obstruct genuine inquiry. But the definite limit to inquiry must be accepted at length because of the natural limit to human intellect and strength.

To carry out his purpose the student must have

HIS IDEALS.

Such ideals come to us gradually: they cannot be found ready made. We cannot even adopt the good ones our neighbors display. Teachers cannot give them, but can inspire them. Little by little they are built by acquaintance with books, things, and people. Each natural gift helps to make the ideal definite, and each step of progress in accord with the true purpose makes the ideal more grand and more significant. Sometimes it is too indefinite, however grand, to be a satisfactory stimulant: sometimes it is too definite to bring out the latent individual powers. An imitator of another can never be the best of students, and yet a grand ideal that cannot be studied in parts gives but little incentive to definite present exertion. The ideal includes one's best conception of purpose, plan, method, facilities, and surroundings. Of these it is needful here to dwell only upon

HIS METHODS.

To describe a student's methods of study so that another can adopt or imitate them is a difficult task, because no two people exactly resemble each other in mental habits more than in physical. One can do his best work in early morning, even before breakfast; another finds an hour of late evening worth the most for hard study. One devours his lesson in haste, and ruminates upon it afterward; while another digests each thought as he meets it, and gains added strength for the next. There are, however, a few general methods worth transcribing. A true student plans for his studies definite periods of time as nearly in uniform order as possible. His times for study are as well marked in his habits as his meal times. He can put off either, but he feels the loss. His order of lessons is as real as is a succession of

courses at a dinner, though the reason for choice may be different. He adapts his lessons to the time at his disposal, to the circumstances favoring study, and to his physical condition. He does not assign to hours of natural weariness or dullness any abstruse thinking, but stimulates his mind at such times by the most enticing facts and problems.

A thorough student studies his own habits of memorizing, and perfects them. He seeks all the methods of association, by words, forms, ideas, and principles, that make memory trustworthy. He never for a moment allows the outside aid of memoranda or of contact with the printed page through the finger-ends. Indeed, the less use he has for books in the classroom the better he likes his work.

In the class-room a true student finds his best hours of study upon the subject of his lesson. The bright thoughts of his teacher and his fellow-students are his best text, and even his dull neighbor is a good whetstone to his own abilities.

The genuine student is always an interrogation point in the presence of uncertainties, though he never asks questions simply to quiz his teacher. If he knows a fact needed for clearing up doubt, he volunteers it in a way that shows his desire to contribute to the wants of others, not to display his abundance of knowledge.

To sum up, the student *par excellence* is one who works to know, raises his ideals with each attainment, and studies his methods and means as well as his texts.

Forest Protection a Necessity.

The Forestry Committee of the Constitutional Convention now in session at Albany has been engaged in labors of moment not only to New York, but also to every other State. An amendment is under consideration forbidding the sale of the State's Adirondack lands or timber from them. Furthermore, it is proposed that all the Catskill and Adirondack sections be set apart to be always maintained as a forest preserve. The Governor would appoint a superintendent and assistants, who in turn would be authorized, under strict conditions of forest preservation, to lease tracts not exceeding five acres and for periods not longer than five years. Indiscriminate destruction of the forests has made this question a pressing one. In the coming century it is conceded that the Hudson river towns, including New York City, will have to depend for their water-supply on the Adirondack region, the present conservator of the State's river and canal system. How can that supply be had when drouths and freshets are increasing as a result of forest denudation? In the entire country the forest area has been diminished to less than 450,000,000 acres, or about twenty-six per cent of the total area. Every year 25,000,000 acres are cleared of timber, the amount felled being double the increment of the woodland crops. We are thus cutting into our capital—an always reprehensible course. Omitting the damage done by forest fires, our wealth is being consumed twice as fast as it is being reproduced. Indeed, the Secretary of Agriculture says that the annual product requires the cutting of 1,600,000 acres every year of white-pine supplies alone. Now, Michigan, Wisconsin, and Minnesota, the three white-pine States, have a total forest area of 60,000,000 acres. If two-thirds is allowed to be in the white-pine belt, twenty-five years would suffice to exhaust the supply. Should present conditions continue—and it is not in the nature of things that consumption will diminish—we may expect a timber famine not many decades hence; this, of course, followed by a water famine. Why not avoid such a prospect by instituting a system of State forest preserves and providing for their intelligent care? In addition to protecting every economic interest, a new industry would have sprung into being offering new opportunities for labor. Nearly two hundred thousand families in Germany find employment in this way, and receive millions in wages, the land owned by the State being one-third of all forests. Let us take a hint from the Fatherland, both in the system of preserves and in aiding schools and universities to disseminate instruction concerning not only arboriculture, but, what is of even greater importance, sylviculture.—*The Outlook.*

"Weary Not in Well Doing."

We, who have long worked in the cause of agricultural advancement, sometimes feel almost in despair of the stolid conservatism that keeps so many farmers in the old ruts, and are disposed to wonder whether all this writing and talking is of any avail after all. But when we look back and remember the style of discussion at agricultural meetings many years ago, and the matter then published in agricultural papers, we are disposed to take fresh courage. There has been an advance. We can well remember when a discussion of the chemical elements of plant

	work, 5.
	Military Science, one-half term, 2.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, 3.
Spring	Descriptive Geometry, 5.
Term....	Entomology, 5.
10 weeks.	Analytical Chemistry, 10.
	Military Science, 2.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, 5.
THIRD YEAR.	
Fall	Trigonometry and Surveying, 5. Survey-
Term....	ing Practice, 2.
14 weeks.	General History, 5.
	Anatomy and Physiology, 10 weeks, 5.
	Chemistry of Foods, 4 weeks, 5.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, optional.
Winter	Mechanics, 5.
Term....	Civics, 5.
12 weeks.	Zoölogy, 5.
	Map Drawing, about 30 hours a term.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, optional.
Spring	Geology, 5.
Term....	Rhetoric, 5.
10 weeks.	Agricultural Chemistry, 5.
	Perspective and Sketching, 4.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, optional.
FOURTH YEAR.	
Fall	Physics and Meteorology, 5.
Term....	English Literature, 5.
14 weeks.	Agriculture, for young men, 5.
	Hygiene, for young women, 5.
	Object Drawing, 4.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, optional.
Winter	Physics, one-half term, 5.
Term....	History of Industry and Science, one-half
12 weeks.	term, 5.
	Psychology, 5.
	Botany, 5.
	Veterinary Science, for young men, 5.
	Floriculture, for young women, 5.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, optional.
Spring	Political Economy, 5.
Term....	Logic, 5.
10 weeks.	Engineering, for young men, 5.
	Literature, for young women, 5.
	Rhetoricals, 1.
	Industrial, 5.
	Military Drill, optional.

Home Adornment Ennobles Life.

Nature is the one exhaustless source of inspiration to man. In love with her, ebbing hope is ever renewed whenever broken communion with her is re-established. It is not so in the artificial life of towns, where the constrained and the mechanical obtrudes itself from every direction upon reluctant attention. Did not our own Webster, when life was fading away and the body was on the eve of returning to nature, have his oxen driven before his window for a parting glance at one of her forms that had received his attentions when relief from duties to civil structure enabled him again to establish associations with nature—associations with which men of genius have always had a passion for?

We commend to the young readers of this paper the article of B. G. Northrop on "Arbor Day and the Home," written for the New York Independent, from which we make brief extracts:

"Inspiration and aspiration come to the youth who embellishes the homestead by his own handiwork and thus strengthens his home attachments. When one helps make his home the Eden of taste and interest and joy, those healthful local ties are formed which bind him first and most to the spot he has adorned, then to his, his state and country. Patriotism hinges on the domestic sentiments. Whatever adorns one's home and ennobles his domestic life not only strengthens love of country, but nurtures all the better elements of his nature. Without local ties no man can have true love of country. As content in one place as in another and truly happy nowhere, he is like a tree planted in a tub, portable indeed, but at the expense of growth and strength. It is a worthy ambition to surround one's home with such scenes and influences as shall develop his higher nature and enrich his daily life. Of all the fine arts the art of right living is the noblest. It feeds the soul and fosters instinctive longings for something better than the bodily appetites can supply.

"It has been well said, 'The quest of the ages has been the secret of living this life for all it is worth.' Yet this secret is as simple as it is comprehensive—the one principle of loving nature, loving home, loving man, and loving God. For no sane man who truly loves nature, benefits his race, and serves God is perplexed by the question so common of late, Is life worth living?

"It is wise for parents to provide those home enjoyments and foster those home courtesies which form a cheerful habit of mind. The morning and evening salutations in the family are little things, and yet

mighty in their influence because they are constant factors in forming character. The home should be illumined and brightened by natures richest hues without, and still more within by the sweet amenities of life, which should be the sunshine of every home, however humble. They refresh and purify the social circle. Like the clinging vine, they twine themselves around the heart, calling forth its strongest affections, and securing its happiest and most healthful activity. Such affections dignify homely drudgery, make rough toils pleasant, painful sacrifices easy, and perils and privations cheerfully endured."—*Mirror and Farmer.*

The Russian Thistle.

Secretary Coburn, of the Kansas State Board of Agriculture, announces that the dreaded Russian thistle, which has caused so much havoc in the Dakotas, has gained a foothold in the State of Kansas, and he urges that now is the most important time to learn to recognize this hateful scourge and be prepared to prevent its further spread, and to eradicate it whenever and wherever it is already established. With this purpose in view, Mr. Coburn issues a large, illustrated poster, describing the weed, and giving large cuts showing its appearance at various stages of growth. The poster is designed to be placed in public places, schools, etc., so that everyone, even the school children, may learn to recognize at sight, and be prepared to assist in combating it wherever met with.

The Russian thistle is a tumble weed, and if allowed to come to maturity its seeds are scattered far and wide by the winds. A single plant may bear from 20,000 to 30,000 seeds, or even more. It is an annual, branching profusely from near the base, and when not crowded, makes a dense growth of from six inches to three feet in diameter. It is a rapid grower, thriving well in dry weather, and at such times crowds out all other vegetation. It is tender when young, with narrow, green leaves, but in late summer it bears only sharp spine-like leaves, one-fourth of an inch long. It differs from all other tumble weeds in that it never bears flat leaves.

It was introduced into the United States from Russia in impure flax seed, and from Colorado into Kansas in impure alfalfa seed, and from Nebraska in various ways. Instructions for fighting it are given, the first of which is to plant no seed from districts known to be infected. The States where the Russian thistle has been established for some time are said to be the two Dakotas, Nebraska, Colorado, Iowa, Minnesota, and Wisconsin. Mr. Coburn especially advises that those living in the counties bordering on Nebraska and Colorado should be particularly watchful. No plant should be allowed to go to seed. Every one should be uprooted before the end of August. Later than this seed may be formed, and all plants should be burned. County and township authorities should see that no thistles are allowed to grow along wagon roads, lines of railroad, on waste or unoccupied lands, stubble fields, or about freight depots, elevators, or granaries. Warnings as to the gravity of the scourge is given, and it is said that in some districts of Dakota, farms have been abandoned on account of it. Owing to its persistent growth in dry weather, and to the fact that at such times it crowds out all other vegetation, it is likely to be especially formidable in the western part of Kansas. There should be a general public interest and watchfulness in regard to the weed, and none should be allowed to ripen seed. All interested can secure full information concerning the scourge, and all other particulars, by addressing the Secretary of the State Board of Agriculture, at Topeka, Kansas.—*Kansas City Live-Stock Indicator.*

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturday, and no student may be absent without excuse. Unexcused absences are taken into account in calculating grades. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy 15 minutes before the meeting of classes each morning, and unnecessary absence from them is noted. On Sunday no services are held in the chapel, but students are urgently advised to attend the different churches of the city.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the Third- and Fourth-year Classes. Once a week all the classes meet, in their class rooms, for exercises in elocution and correct expression.

There are four prosperous literary societies which meet weekly in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the second and fourth Friday evenings of each month.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College, and a union meeting on the first Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greetings find place.

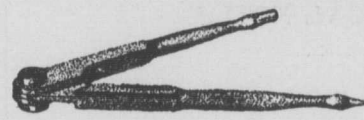
Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

A NEW BLACKBOARD COMPASS.



The Mechanical Department has produced a new blackboard compass which can be sold for a small price. They have been in use for the past two years and have given satisfaction. They are made of seasoned cherry, highly finished and with an improved joint, presenting a large friction and binding surface. Knurled brass clamping nuts on each side of the head. Handy to have. Handy to use. Handy to care for. Get one. 75 cents each, 6 cents extra for postage. Address O. P. HOOD, Supt., Manhattan, Kan.

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A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

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D. R. C. P. BLACHLY, Dentist. The famed Odontunder used for painless extracting.

PHOTOGRAPHS.

DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT & LONG'S LIVERY STABLE.—Everything new, strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00 cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE.

THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city. A complete grocery store in connection.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered free of charge.

food would have been so much Greek to the majority of those present, while nowadays it is common to hear intelligent farmers discuss these things in a way that would have astonished the chemist of by-gone days. Therefore "weary not in well doing; for in due season ye shall reap if ye faint not." "Line upon line and precept upon precept" will finally reach the objects. After we are gone some others will take up the work, until in all our broad land farming will be studied and practiced as the accumulated wisdom of many sciences, and the farmer's profession will be esteemed the most learned of all.

This will be true because no one science can grapple the diverse interests embraced in the art. Chemistry will always be a potent agent in the work, but will ever need the aid of the biologist and microscopist, while the more exact science of the surgeon will supplement the efforts of the medical practitioner, and applied mathematics and mechanics will have a share of the work. What a complex study, then, is this art of restoring and increasing the productiveness of Mother Earth! What other profession calls for such versatile talent, such administrative ability? The "coming man" will not wonder why men go to college to study the art, but will wonder that any one ever thought a long course of study unnecessary. He will no longer sneer at the book farmer, but will be surprised to learn that there ever were men who considered themselves farmers and yet did not read and study. We are yet far from knowing it all, and the "coming man" himself will realize, perhaps better than we do, how much there will be still for him to learn. We are only on the threshold, the pioneers of the army that is yet to make all our waste places blossom and produce.—*Practical Farmer.*

Wasted Time and Opportunities.

The greatest waste of time and opportunities is committed by young men and young women. They do not realize the value of time until years have rolled away and they find themselves bound down to hard labor that they might have escaped if they had taken time to improve their mind or develop some kind of special skill that would put their services in demand. Much of the distress of the world falls upon the workers of little skill, whose places can easily be filled from a great throng of other incompetents, always seeking a job. Very many of these (not all, perhaps) have wasted their time and opportunities in their youth. They have sought recreation and amusement when they should have been studying; they have refused to work at any calling that required them to soil their hands or their clothes; they have accepted easy situations and have reached manhood or womanhood ignorant, lazy, and incapable of giving useful service to their employers. But they cannot recall one minute of the wasted hours and days of their youth. No repentance will bring back to them lost opportunities. They are doomed as by a fate, for which they are themselves in part responsible, to a life of ill-paid toil or of shame. This lesson cannot be too often held up before the young, for they are thoughtless and always more or less indifferent to the lessons of experience. Here and there, however, one may be found who will listen to the warning and guard against the waste of time. In doing so he need not sacrifice the rational enjoyments of life. There is abundant time for play, as well as for study and work and rest, if one will make a proper division. And there will be no waste of time if each hour is made to help build up the physical, mental, or moral qualities or to develop some special skill that will be useful in the bread-winning contests of the future.—*Baltimore Sun.*

Does Farming Pay?

Intelligent farming always pays. The man who goes about it in the same common sense way in which a man goes about any other calling reckons the results by a standard which admits of no speculation. If his family derives an income that leaves him one whit better off than when he undertook the work, he must needs grant that he made it pay. It is so with the man who sets up a grocery store or any other branch of business. If his venture makes a living for himself and family, it pays. And it is the same to the last degree with the farmer. Drouths may come, and they may go; the man who comes out from the period of depression that is sure to follow, with his energies unimpaired and his family unbroken, is the successful one, whether he be a farmer or if he have any other calling. Farming will pay any man who undertakes to live within the means of his investment. The same is true of any mercantile or any other calling, but the farmer has always before him the knowledge that he can, if necessity should call for it, live wholly within the resources of his own production, be that ever so little.—*Kansas City Star.*

The Rich and the Poor.

Ruskin never wrote a wiser article, one which conveyed more precious teachings and contained more truth and practical advice, than the following:—

"For indeed the fact is, that there are idle poor and idle rich, and there are busy poor and busy rich. Many a beggar is as lazy as if he had ten thousand a year; and many a man of fortune is busier than his errand boy, and never would think of stopping in the street to play marbles. So that, in a larger view, the distinction between knaves and honest men runs

through the very heart and innermost nature of men of all ranks and in all positions. There is a working class—strong and happy—among both the rich and poor; there is an idle class—weak, wicked, and miserable—among both rich and poor. And the worst of the misunderstandings arising between the two orders come of the unlucky fact that the wise of one class (how little wise in this) habitually contemplate the foolish of the other.

"If the busy rich people watched and rebuked the idle rich people, all would be right among them. But each looks at the faults of the other. A hard working man of property is particularly offended by an idle beggar; and an orderly but poor workman is naturally intolerant of the licentious luxury of the rich. And what is severe judgment in the mind of the just men of either class becomes fierce enmity in the unjust—but among the unjust only.

"None but the dissolute among the poor look upon the rich as their natural enemies, or desire to pillage their houses and divide their property. None but the dissolute among the rich speak in opprobrious terms of the vices and follies of the poor."

Happiness of Life on the Farm.

A prosperous and intelligent farmer sat in this office a short time ago discussing the events of the last year; the financial panic, the unexplained business depression, the industrial unrest, and the progress of a rebellion against the government, which, if not arrested, would have ended in civil war. "Well," he said as he arose to go, "I am going back to my farm and let the old world go on its own gait. I am happy there. Nothing disturbs me. In the worst year that can come I will have plenty to support my family. I will have my books and papers and know what is going on outside, but I am safe. Panics and trade revulsions do not affect me at all, and even a revolution would hardly disturb me in my quiet nook." Now, bright people have been cudgeling their brains to make out a picture of the future Utopia. But is there anything, even in the dreams of visionaries, that is much nearer to a condition of material happiness than this? Hardship and struggle are there and everywhere. Life without struggle would be worthless. But there also is independence; and, with industry and frugality, absolute assurance against future distress. It would be an untold blessing if armies of the unemployed and of the unfortunate could be transplanted to the farm. In Minnesota alone there are opportunities enough for millions.—*St. Paul Pioneer Press.*

How to Stop a Runaway Horse.

It is asserted that in Russia a horse that is addicted to the habit of running away has a thin cord with a running noose around his neck at the neck strap, and the end is tied to the dashboard. "At Rome," says this informant, "I saw in the Corso a phaeton with two spirited horses bolt. They were driven by a lady, and I expected to see instant destruction. But the lady coolly grasped a thin cord, and within thirty yards the horses came to a full stop. I afterward met the lady at Nice and expressed surprise at the skill with which she stopped the runaways. She treated it as a trifle, and told me accidents from runaway horses are unknown in Russia, as no one but a lunatic would drive without the cord. When a horse bolts he always takes the bit in his teeth, and the skill of the driver is useless. The moment the pressure comes on the windpipe the horse knows he has met his master."—*Farm, Stock, and Home.*

The Farm Day.

We do not look favorably upon this fourteen hours a day on the farm as the period set apart for hard labor. It is a slavish practice and never ends well. A man may occasionally in some unforeseen way get into circumstances that compel such a sacrifice for a limited time, and this is excusable, but to go deliberately about arranging one's affairs with the expectation of putting in this amount of time at manual labor in each twenty-four hours of the season is out of reason. It is not consistent with the fundamental ideas of existence. From dawn till dark is a long time in early summer. It should afford a period of rest in the middle of the day for farm laborers who begin early and late. It will pay better in the end.—*The Farmer's Review.*

Don't Leave the Farm.

Mr. J. F. Keller, in an address before the Muskingum (Ohio) Horticultural Society, gave the following wholesome advice to young men on the farm:—

"Many times we hear young men on the farm say, 'I don't like the farm; the associations of city life are more suitable to my tastes.' Ah, my young friend, you have never looked into the sink holes of hell and slums of iniquity where the very demons of hell feast on fallen and lost manhood; the theater, the public ball, the saloon and gambling house, and other resorts of vice are pitfalls that comparatively few pass in safety. You say these things could not entice you into wrong-doing, you have too much character. So have said thousands of the noblest specimens of manhood, and yet they have filled a drunkard's or criminal's grave. Don't conclude that because a few bonanza fortunes have been made in the city in a short

time, you can do the same. Ninety-nine of you will fail to one that succeeds. More genuine privation and misery exists in five of the principal cities of this country than among the entire agricultural population. If you have a desire to become influential, nowhere will you find a better opportunity than in agriculture. All of the problems have not been solved, nor the depths fathomed, nor the secrets told. These are waiting for you, young man, and give an opportunity for the exercise of the keenest intellect and depth of research.

"My young friend, consider well before giving up the farm for the city. Remember, 'All is not gold that glitters.' Probably you have but seen the bright side of city life. And now, friends, when this day with its pleasant associations is over, may we return to our homes with a full conception of the higher and nobler purpose of life, resolving to be better neighbors, better fathers and mothers, better husbands and wives, and better children. Let us be content with the sphere of action wherein He who doeth all things well, hath placed us. May we prize the sanctity of the home, and by precept and example lead those whom an all-wise providence hath entrusted to our care and keeping, to the attainment of all the essentials of good citizenship; industry, sobriety, morality, and regard for human kind. May we love our homes better and strive to elevate the standard of agriculture by the adoption of better methods of farming. When we contemplate the manifold blessings of this life, may we give all praise to Him who doeth all things well, and may the words of Washington find lodging in every true patron's heart, 'Agriculture is the most healthful, most useful, and most noble employment of man.'"

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturday, and no student may be absent without excuse. Unexcused absences are taken into account in calculating grades. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy 15 minutes before the meeting of classes each morning, and unnecessary absence from them is noted. On Sunday no services are held in the chapel, but students are urged to attend the different churches of the city.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the Third- and Fourth-year Classes. Once a week all the classes meet, in their class rooms, for exercises in elocution and correct expression.

There are four prosperous literary societies which meet weekly in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the second and fourth Friday evenings of each month.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College, and a union meeting on the first Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greetings find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

Library.

The College library consists of over 13,000 bound volumes and about 4,000 pamphlets, and is valued at \$26,000. It has been selected mainly with a view to supplementing the class room instruction in the various departments. All the books are indexed in a card catalogue, so that the resources of the library upon any subject may be readily learned. All students have free access to the bookshelves, and may draw the books for home use, under simple and most liberal regulations.

The College subscribes for the leading literary, scientific, and agricultural journals; while the principal daily and weekly papers of Kansas and many from other States are received in exchange for the College publications. All these are kept on file for the use of students and Faculty.

The College has been designated as the depository of United States public documents for the Fifth Congressional District of Kansas. About 1,000 volumes have already been received on this account.

The library is open daily except on legal holidays. During the College terms, the library hours are from 8 A. M. to 4 P. M., and during vacation from 9 A. M. to 12 M. The Librarian or the assistant is in constant attendance, at these hours, to assist those who use the books.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Desks for the new class rooms just received are being placed in position.

The old library room is being refitted and painted, and will be used as a class room.

Prof. Georgeson joins Profs. Failyer and Lantz in the Irrigation Convention at Denver this week.

Three large wire mats at the entrances to Science Hall give broad hints to passers-by that dirt should be left at the doors.

Prof. Will with his family arrived on Thursday, and is settling in the house occupied for several years past by Prof. Nichols.

Miss Rupp has returned to the College work with fresh energy, having spent the vacation with her parents at Terre Haute, Ind.

Mr. H. K. Brooks of Topeka took up his work as Foreman of the Iron Shops on Wednesday. He brings a large experience to his new duties.

Prof. Mason accompanies his sister to Utah. He expects to be absent ten days, devoting part of the time to collecting for the forestry museum.

Mr. Marshall comes from WaKeeney to educate his children at the College, and has opened a grocery store in town. He had two sons in classes last year.

Mrs. Kedzie is expected to return this evening from her visit in Michigan, and attendance upon the meeting of the American Association for Advancement of Science at Brooklyn, N. Y.

The boys of the Horticultural Department are responsible for the improved condition of the grounds by scattering the unsightly dirt heaps left by the ditch diggers. They will put in a cinder walk to connect Science Hall with the Main building.

Hon. D. C. Chipman, of Minneapolis, who operates a farm of 1000 acres besides caring for a large legal practice, was the guest of Secretary Graham on Tuesday. Judge Chipman, after inspecting the "Farmer's College" about which he had often heard, decided to place his son here for a training to future usefulness.

Mr. W. Erickson, a farmer living near Olsburg, recently lost seven head of cattle in a—to him—mysterious manner, and on reporting the case to Dr. Mayo was asked to send a sample of the feed (corn fodder) for inspection. Dr. Mayo found analysis of the stalks unnecessary, the first test revealing the presence of potassium nitrate in sufficient quantity to produce death. Ignited, the stalk under trial burned like the fuse of a cannon fire-cracker. Inquiry proved the fodder to have been grown on an over-rich hog lot, leading to the deposit of potassium nitrate stalks—a somewhat frequent occurrence.

GRADUATES AND FORMER STUDENTS.

Warner S. Pope, '92, will study law this year at the State University.

Lucy H. Waters, '94, is a teacher in the Manhattan City Schools this year.

H. G. Pope, '94, enters upon a special literary course at the State University.

J. N. Harner, '92, will take a course at the State Normal School this Fall.

O. Bentz, Second-year in 1893-4, writes from Santa Barbara, Cal., for standing in studies.

Minnie Reed, '86, has a place among the teachers of Kansas City, Mo., for the coming year.

Hortensia Harman, Third-year in 1893-4, is stenographer for Kimble & Brock, the lawyers.

Margaretha E. C. Horn, '93, expects to take up special studies at the Michigan University the last of September.

J. C. Christensen, '94, called at the College yesterday on his way to Maple Hill, where he opens school on Monday next.

J. H. Persinger, Second-year in 1891-2, was married June 11th, to Miss Fanny Leonhart, at the residence of Mr. J. F. Swingle.

C. R. Pearson, '94, has been nominated for Superintendent of Public Instruction on the Populist ticket in Sheridan County.

A. Jackson, Second-year in 1891-2, is here ready for the opening of the term, having ridden from Williamsport, Pa., on a bicycle, a distance of about 1200 miles, in twenty days—a hard trip in the heat and dust, the latter making difficult wheeling nearly all the way. After a summer on the Columbian Guard, Mr. Jackson went to New York and shipped as clerk

on a brig bound for the Mosquito Coast after coconuts, the voyage occupying about six months. He plans to finish the course.

C. R. Hutchings, '94, and G. L. Christensen, '94, find room for development of their mechanical ideas in the Blue Valley Foundry.

J. S. Monahan, student in 1893-4, writes from Homestead, O.T., that he expects to teach there under County Superintendent A. S. Newman, '90.

G. M. Dick, Second-year last Fall, saw the ball club from his town (Ellsworth) lose a series of three games at Manhattan the first of the week.

Mrs. Dalinda Mason-Cotey, '81, accepts the position of Professor of Domestic Economy in the Agricultural College at Logan, Utah, beginning work at once.

George Forsyth, Fourth-year, being in advance of his class by one term's work, will take charge of the buildings during the temporary disability of Janitor McCreary.

D. F. Wickman, '92, has been obliged to give up his work in the Santa Fe offices for the sake of health, and will devote himself to market gardening at Topeka, in which he expects to find health, pleasure, and profit.

H. A. Darnell, '92, after spending a few months in the Summer Session of the State Normal School, writes from Earlton, Kan., that he has found a use for psychology in his special studies. He will not teach this year, but is an applicant for appointment in the Civil Service of the United States.

Notes from the College Farm.

The past season has been the most trying on crops on the College farm for many years. While nearly everything has suffered serious injury, it is interesting to see that there are a few crops that can live through such a drouth with comparatively little injury.

Threshing proved the early predictions of a poor wheat crop. Varieties that generally yield from 30 to 40 bushels per acre, yielded from 8 to 12 bushels this year. The Turkey was a notable exception, yielding for an average of five plots, over 38 bushels per acre. It is decidedly the hardiest variety grown here. A yield of six bushels is all that saved the experimental acre from a record of a third total failure.

The oat crop, that was given up as lost for a time, came out quite well considering all things. The straw was very short, but most of the plots rated from 20 to 25 bushels of good heavy grain, Belgian, as usual, taking first rank with a yield of over 40 bushels per acre. Several new varieties tested this year proved to be inferior, or no better than many of the well known varieties, and the seed cost from \$1.50 to \$2.00 per bushel.

The middle of July showed the finest prospects of the most interesting corn experiments in the history of the Station, but just as the corn was tasseling out the dry weather came and by the last of July all was a dry mass. Plots of certain cultivations, times of planting, and varieties held out after others were dead, but these could not stand the prolonged drouth, and were cut and put in the silo. The problem had been a few weeks before, what was to be done with all the ensilage corn, as the silo could not hold over half of it; but the question was soon to be answered, as the yield was only four to five tons per acre, about a third of a usual crop. Corn was purchased from neighboring farms to complete filling the silos.

The never failing Kaffir corn has stood the ordeal remarkably well and is heading since the late rains, and if early frosts do not check it, it will give a good yield of grain. The heading is late this year on account of late planting.

The navy beans that promised so well for a while have failed totally, but the soy beans will prove beyond doubt this year that they are a crop for Kansas, although they will not do as well as in previous years. Cow peas turned out a good yield of grain and hay. The peanuts seemed to thrive with the dry weather, and a large yield is sure.

The sorghum hay crop will be light, but will well pay for the expense of putting in. A little over two and one-half tons is the crop from a tame grass meadow of twenty acres. This spring's seeding of grass, at one time the most promising we ever had, is probably all dead. The pastures have become as dry and bare as in mid-winter, but the late rains came just in time, so that the cattle did not need to have extra feed.

Wheat seeding will commence about the 12th. The ground is in fair condition. The plowing was continued through the dry weather although the ground was very dry and hard, and plowed up in places like so many stones. Immediately after plowing the disc harrow was used, and then a large float which leveled the ground in fair shape; and since the rains the disc and acme harrow have made an excellent seed bed. The surface is fully moist enough for germination, but more rain is necessary before it reaches the depth of the plowing. F. C. BURTIS.

Good Words From a Graduate.

W. C. Moore, '88, editor of the Junction City Union, speaks in behalf of education and his Alma Mater in the following editorial:—

"A dozen or two of the young ladies and gentlemen of Geary—the daughters and sons of farmers—ought to make up their minds to begin this fall, September 13, at the State Agricultural College at Manhattan. The era is fast dawning when the educated farmer will be as necessary as the educated surgeon, banker,

or other business man. Agriculture, as other departments of activity, is not at a stand still, and the young man who clam-like shuts out all opportunities for growth will be in anything but an enviable position. The young woman of the farm who anticipates going into a home as wife and mother has equal responsibilities. The educated mother of today means educated sons and daughters of the coming and future generations. The ignorant young mother has even less right in a home than the common day-laborer would have in Dr. Henshaw's, Rev. Brown's, or Dr. Henderson's pulpit. The demands of the future will mean something for the young people soon to accept the responsibilities of full citizenship.

"The College of today has many advantages. Its course of study is thoroughly agricultural and scientific, with plenty of literature, history, logic, psychology, a new chair of political economy, with thorough training in domestic economy (household economy) and sewing. The large and growing library has just been moved into a magnificent new "Library Building." No training school has more complete carpenter and machine shops, including foundry. The Experiment Station, in connection with the College farm, gardens, and orchard, gives additional advantages to the young man of brains who cares to get more than is included in the regular course of study. The facilities for post-graduate work in all the more common lines of study are good, and the rapidly growing library, museums, and laboratories, and specialists in the Faculty, make the opportunities each year more valuable. The fifteen or more years of the bloom of President Geo. T. Fairchild's life, he being one of the grandest men and broadest educators in the West, which have been given without stint to the College, have been pillars of strength to the institution which are now, more than ever before, being seen and appreciated.

"The graduates of the College are making splendid showings for the institution. There are 358 graduates, of whom 120 are women. Of the gentlemen, 7 are professors and instructors in Agricultural Colleges; 4, assistants in Experiment Stations; 3, assistants in U. S. Department of Agriculture; 10, teachers and students in special sciences; 1, Secretary State Board of Agriculture; 3, veterinary doctors; 5, superintendents of city schools; 2, officers in the U. S. Army; 2, observers in the U. S. weather service; 10, editors; 7, ministers; 10, civil, electrical, and mechanical engineers; and 4, architects and draughtsmen. Of the ladies, 2 are instructors in sewing; 4, teachers in household economy; 6, teachers and students in special sciences; 2, teachers of music; 2, teachers of art; and 1, editor. Thirty-two are teachers and 44 are housewives.

"To be more specific, the College has graduates as follows: One in the Faculty of the Kansas University; a half dozen in its own Faculty; one deputy U. S. Mineral Surveyor; 1 Assistant in Entomology, U. S. Department of Agriculture; 1 Instructor in Physics, Cornell University, Ithaca, N. Y.; 1 lady Instructor in California State University; 2 Assistants in Division Vegetable Pathology, U. S. Department of Agriculture; 1 formerly with the U. S. Department of Agriculture, now taking special work in Germany; 1 lady Professor of Domestic Economy in Utah State Agricultural College; 1 Professor of Physics in Colgate University, Hamilton, N. Y.; 1 Secretary Colorado State Board of Agriculture; 1 Assistant in Agriculture in Utah Agricultural College; 1 lady Instructor in Sewing Utah Agricultural College; 1 lady Instructor in Household Economy in Stout Manual Training School, Menomonie, Wis.; 1 Professor of English in Oklahoma Agricultural College; 1 lady Professor of Domestic Economy in Storrs Agricultural College, Storrs, Conn.; 1 Professor of Agriculture in Oklahoma Agricultural College; 1 Assistant in Missouri School of Botany, St. Louis.

"The College last year enrolled 555 students. Sixty-seven counties in Kansas were represented, and fourteen other states. There were 25 post-graduates, 42 in the fourth-year class, and 39 graduates. The College expects a larger enrollment this year, and can do better work than ever.

"Geary has 100 farmers who are abundantly able to send their sons or daughters to the State Agricultural College. The expense may be reduced to a trifle."

The Weather for August.

Temperature.—The mean temperature for August, 1894, was 79.88°, which is 3.82° above normal. There have been but three warmer Augusts in the period covered by our record of thirty-seven years, the warmest being in 1860, when the mean temperature was 85.00°, and the coolest in 1868, when it was 70.68°. The maximum temperature was 107°, on the 11th and 20th; the minimum, 45°, on the 5th—a monthly range of 62°. The greatest daily range of the thermometer was 47°, on the 5th; the least, 22°, on the 14th. The warmest day was the 13th, with a mean of 90.25°; the coldest, the 3rd, with a mean of 66°. The mean temperature at 7 A. M. was 70.84°; at 2 P. M. 94.35°; at 9 P. M. 77.16°. The mean of the maximum thermometer was 97.68°; of the minimum, 63.16°; the mean of these two being 80.42°. There were twenty-eight days on which the maximum thermometer registered over 90°; twenty-one days it registered over 95°; and twelve days it registered 100° or over.

Barometer.—The mean pressure for the month was 28.86 inches, which is .05 inch above normal. The maximum was 29.068 inches, at 7 A. M. on the 4th; the minimum, 28.694 inches, at 9 P. M. on the 13th—a

monthly range of .374 inch. The mean at 7 A.M. was 28.891 inches; at 2 P. M., 28.838 inches; at 9 P. M., 28.858 inches.

Cloudiness.—The per cent of cloudiness for the month was 35.5, which is normal for August. There was no day that was over two-thirds cloudy, and this is very unusual. Four days were two-thirds cloudy, ten were one-half cloudy, seven were one-third cloudy, six were one-sixth cloudy, and four were entirely clear.

Rainfall.—The total rainfall was .475 inch, which is 2.97 inches below normal. Rain fell on three days—the 21st, 24th, and 25th. The average number of rains for August is seven. The total rainfall for the eight months of 1894 now completed is 15.38 inches, which is 7.15 inches below the normal for thirty-seven years.

The general crop conditions which were unusually discouraging at the end of July are much more so with the close of August. Wells are going dry all over the country, springs that have always been never-failing are absolutely dried up, creeks are lower than ever before known, and the question of water for household use is becoming a critical one with many a family, and that for stock much more so because of the larger amount required. Corn has nearly all been cut, and will make fair feed generally. Many fields will have scarcely an ear in them, and there are some, in especially favored localities, that will make fair corn. Pastures show scarcely a trace of green, and are dry enough to burn, and yet stock are doing well on them.

Wind.—The wind was from the southwest thirty-three times; southeast thirteen times; northeast thirteen times; east thirteen times; south eight times; north five times; northwest two times; west one time; and a calm five times. The total run of wind for the month was 5220 miles, which is 403 miles below the August average. This gives a mean daily velocity of 168.93 miles and a mean hourly velocity of 7.01 miles. The highest daily velocity was 285 miles, on the 6th; the lowest, 85 miles, on the 23rd. The highest hourly velocity was 22 miles, from six to seven P. M. on the 20th.

The following table gives a comparison with the preceding Augusts:—

AUGUST.	Number of rains.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858....	5	3.98	52	SE	74.64	100	50	.....	.....	.....
1859....	5	6.84	52	SE	76.89	98	58	.....	.....	.....
1860....	5	3.00	52	S&SW	85.00	112	.....	.....	.....	.....
1861....	4	1.39	34	S	78.14	99	62	.....	.....	.....
1862....	8	2.85	39	S	77.66	101	64	.....	.....	.....
1863....	8	6.21	40	S	77.97	96	54	.....	.....	.....
1864....	6	1.84	53	S	77.72	99	56	.....	.....	.....
1865....	8	5.04	52	SE	75.01	90	59	.....	.....	.....
1866....	2	.10	26	SW	76.31	98	55	.....	.....	.....
1867....	4	.70	29	S	77.00	94	59	.....	.....	.....
1868....	9	5.94	42	SE	70.44	92	54	.....	.....	.....
1869....	10	2.43	43	SW	75.25	91	62	.....	.....	.....
1870....	13	5.21	52	NE	71.95	99	52	.....	.....	.....
1871....	8	4.23	36	SW	75.27	94	53	.....	.....	.....
1872....	9	5.32	42	SW	76.92	96	57	.....	.....	.....
1873....	5	1.64	34	SW	77.88	104	59	.....	.....	.....
1874....	4	.25	34	SW	83.11	109	58	28.72	28.90	28.32
1875....	6	1.40	35	S	72.12	93	47	28.73	28.94	28.56
1876....	10	10.70	31	SE	76.31	92	48	28.79	29.12	28.60
1877....	6	2.78	39	SW	75.04	96	43	28.80	29.03	28.56
1878....	5	2.66	41	SW	77.57	97	47	28.77	28.96	28.63
1879....	4	1.61	43	SW	77.57	99	61	28.75	29.01	28.54
1880....	11	8.81	44	SW	76.00	97	46	28.65	28.92	28.42
1881....	2	.43	24	N	83.81	103	65	28.65	28.80	28.47
1882....	4	.87	30	N	73.64	91	52	28.70	28.85	28.49
1883....	4	3.94	37	E	72.96	93	50	28.73	28.89	28.44
1884....	4	6.21	43	SE	72.14	94	48	28.63	28.90	28.40
1885....	5	.89	30	SW	74.14	98	41	28.66	28.85	28.38
1886....	12	2.06	27	S&SW	79.27	110	49	28.85	29.06	28.56
1887....	11	6.66	36	S	73.65	106	51	29.04	29.20	28.88
1888....	9	4.46	33	SE	74.11	104	49	29.03	29.29	28.77
1889....	6	2.48	31	.....	74.06	97	51	29.15	29.32	29.00
1890....	8	5.73	40	SE	74.33	102	50	28.91	29.15	28.71
1891....	5	.98	18	S	73.64	102	40	28.82	29.13	28.55
1892....	6	4.32	16	E	74.52	105	46	28.85	29.06	28.56
1893....	9	2.92	27	N	72.26	101	41	28.86	29.14	28.61
1894....	3	.47	35	SW	79.88	107	45	28.86	29.07	28.69
Means	7	3.44	35	SW	76.06	99	52	28.81	29.03	28.58

C. M. BRESE, Observer.

Revised Course of Study.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside. Students in irregular courses are expected to take the equivalent for the required duties of the term; variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two:—
[Numerals denote number of class hours per week. When no work outside of class is required, italics are used.]

FIRST YEAR.

Fall Algebra, 5.
Term.....English Analysis, 5.
14 weeks. Botany, 5.
Free-hand Drawing, 3.
Rhetoricals, 1.
Industrial, 5.
Military Drill, 4.

Winter Algebra, 5.
Term.....English Composition, 5.
12 weeks. Bookkeeping, one-half term, 5. Commercial Law, 1.
Geometrical Drawing, one-half term, 5.
Rhetoricals, 1.

Industrial, 5.
Military Drill, 3.

Spring Algebra, 5.
Term.....English Structure, 5.
10 weeks. Elementary Physics, 5.
Rhetoricals, 1.
Industrial, 5.
Military Drill, 5.

SECOND YEAR.

Fall Geometry, 5.
Term.....Horticulture, 5.
14 weeks. Inorganic Chemistry, 5. Laboratory work, 2.
Rhetoricals, 1.
Industrial, 5.
Military Drill, 4.

Winter Geometry, one-half term, 5.
Term.....Projection Drawing, one-half term, 5.
12 weeks. Agriculture, for young men, 5.
Household Economy, for young women, 5.
Organic Chemistry, one-half term, 5.
Mineralogy, one-half term, 5. Laboratory work, 5.
Military Science, one-half term, 2.
Rhetoricals, 1.
Industrial, 5.
Military Drill, 3.

Spring Descriptive Geometry, 5.
Term.....Entomology, 5.
10 weeks. Analytical Chemistry, 10.
Military Science, 2.
Rhetoricals, 1.
Industrial, 5.
Military Drill, 5.

THIRD YEAR.

Fall Trigonometry and Surveying, 5. Surveying Practice, 2.
Term.....General History, 5.
14 weeks. Anatomy and Physiology, 10 weeks, 5.
Chemistry of Foods, 4 weeks, 5.
Rhetoricals, 1.
Industrial, 5.
Military Drill, optional.

Winter Mechanics, 5.
Term.....Civics, 5.
12 weeks. Zoölogy, 5.
Map Drawing, about 30 hours a term.
Rhetoricals, 1.
Industrial, 5.
Military Drill, optional.

Spring Geology, 5.
Term.....Rhetoric, 5.
10 weeks. Agricultural Chemistry, 5.
Perspective and Sketching, 4.
Rhetoricals, 1.
Industrial, 5.
Military Drill, optional.

FOURTH YEAR.

Fall Physics and Meteorology, 5.
Term.....English Literature, 5.
14 weeks. Agriculture, for young men, 5.
Hygiene, for young women, 5.
Object Drawing, 4.
Rhetoricals, 1.
Industrial, 5.
Military Drill, optional.

Winter Physics, one-half term, 5.
Term.....History of Industry and Science, one-half term, 5.
12 weeks. Psychology, 5.
Botany, 5.
Veterinary Science, for young men, 5.
Floriculture, for young women, 5.
Rhetoricals, 1.
Industrial, 5.
Military Drill, optional.

Spring Political Economy, 5.
Term.....Logic, 5.
10 weeks. Engineering, for young men, 5.
Literature, for young women, 5.
Rhetoricals, 1.
Industrial, 5.
Military Drill, optional.

In as much as agriculture is the foundation of all industry and upon it all depend for the sustenance of life, no true advancement, socially or otherwise, can be expected unless the art of the husbandman progresses in conformity with all other arts.—S. H. Buell.

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.
2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.
3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.
4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

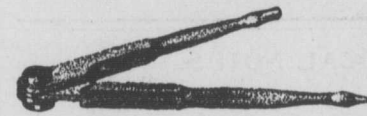
Short Lecture Course for Farmers.

Beginning on the first Tuesday of February each winter, a two-weeks course of lectures is given on agriculture and related arts and sciences. This is provided for those farmers and others who cannot take up the fuller work of the regular College classes. Members of the Faculty are assisted in delivering these lectures by prominent farmers, stock raisers, and fruit growers of the State; and full discussions of the topics presented bring out the varied experiences of those attending. This course, during the winter of 1893, was attended by about 40 farmers.

More than a million dollars are expended annually to maintain the agricultural colleges of the United States, and doubtless more general good is accomplished by these institutions and more benefit derived from the investment than through any other expenditure of a like amount, under Government control.—Farmers' Magazine.

A new economic writer urges the adoption of a certain selling price of the product and a certain wage for each variety of work in mine, manufactory, or on the farm as a standard, and to agree that a specific increase or decrease of price shall be followed by a proportional rise or fall of wages.

A NEW BLACKBOARD COMPASS.



The Mechanical Department has produced a new blackboard compass which can be sold for a small price. They have been in use for the past two years and have given satisfaction. They are made of seasoned cherry, highly finished and with an improved joint, presenting a large friction and binding surface. Knurled brass clamping nuts on each side of the head. Handy to have. Handy to use. Handy to care for. Get one. 75 cents each, 6 cents extra for postage. Address O. P. HOOD, Supt., Manhattan, Kan.

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DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

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THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city. A complete grocery store in connection.

E. B. PURCELL, corner of Poyntz Avenue and Second Street, the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered free of charge.

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THE COREAN WAR.

BY PROF. J. D. WALTERS.

THE aphorism "The fittest will survive," has again been demonstrated by the late Corean war. Progressive Japan, though numbering only 35 millions, has attacked old, stagnant China, having ten times this population, and has, so far at least, been victorious in every battle on land and water. The beautiful peninsula of Corea is in possession of the Japanese forces, and China is helplessly suing for peace.

No one can study the map of eastern Asia without coming to the conclusion that the future of that part of the world belongs to Japan. The geographical position of the country is so favorable in every respect and its surface conditions are so excellent, that it may well be called the England of Asia. In many particulars it has the advantages over old England. The Asiatic continent forms a concave coast line toward Japan while Europe opposite England offers a convex coast. Japan faces Asia from the east, while England faces Europe from the north. England is a much smaller country than Japan, and covers but a few latitude circles, while Japan, with Corea, reaches as far south as Egypt and as far north as anything marketable will grow. The climate of Japan is equitable and exhilarating, its rainfall ample and equitable, its scenery grand and inspiring, and its flora incomparably rich.

It is due to these natural causes that the Japanese, though of Mongolian race and isolated from all Caucasian progress, have become the highly civilized nation which they are. Their favorable position will give them still more advantages in the future. The phenomenal growth of England dates from the time of secure and rapid navigation; that of Japan will date from the time of its adoption of the ocean steamer.

The war already decided will be a powerful impetus for the Japanese nation. Within a few decades Japan will compete with Europe for the possession of Asia, and with America for the directing influence upon the islands of the Pacific. Environment is a main factor in national as well as personal results.

Some day, not fifty years hence, Japan will compete with the nations of Europe and America, not only in matters pertaining to mechanical skill and artistic execution; its exhibits at our fairs will not consist only of exquisite examples of decorative, ceramic, and horticultural art; but it will compete with the rest of the world in results of educational effort, scientific discovery, and engineering undertakings.

FARMERS' INSTITUTES.

BY PROF. C. C. GEORGESON.

THE season for farmers' institutes will soon be at hand. It is time to begin to lay plans for them. No successful institute can be held on brief notice. It requires planning, consultations, and advertising on the part of the organizers, in order to bring it to the notice of all who ought to take interest. The organizers, on whom these duties devolve, either through appointment at last year's meeting, or by reason of a natural selection of the fittest, should begin their preparations at once. There ought to be at least one good, rousing farmers' institute in every suitable community through the length and breadth of the State this coming winter. There is no form of social intercourse that can unite everybody in the advancement of a common cause like the institute, nor is there anything more conducive to the growth of neighborly feelings. But above all, the institute is an educator. No one "knows it all;" everybody can learn something from everybody else, and the institute brings out the experience and best thought on the methods of farming and stock-raising in which each will be sure to find something that may be of profit to him if he will but heed the suggestions. A live institute, well attended, is the most intensely practical school of agriculture that one can conceive of. It is a school in which experience, and not theory, is brought forward, and we all acknowledge that experience is the best teacher; and next in value to our own experience, is the experience of others.

The Agricultural College has, for many years, given proof of its interest in this form of education by taking an active part in the organization of institutes, and by promoting institute work by all possible means. The College has sent from one to four representatives to nearly one hundred institutes in the last thirteen years. This is "College Extension"

work of the most valuable kind, resembling, in the manner of giving the instruction, the "University Extension" work which the literary institutions have taken up in the last two years. The College intends to continue this work. As in the past, members of the Faculty will be sent to all parts of the State to aid at institutes wherever such aid may be necessary and desired. These representatives are invariably sent at the expense of the College without any tax whatever on the institute or the community where the institute is held. The College, moreover, offers to aid in the arrangement of the program and to print posters and programs, free of charge. A standing committee of the Faculty is charged with the duty of aiding in the organization of institutes, especially in places where none have heretofore been held, and of considering requests for assistance.

The object of this brief article is to call the attention of the public to these facts and to invite correspondence from all communities in the State which desire to avail themselves of the assistance of the College in this matter. Correspondence addressed either to President Fairchild or the writer of this will receive prompt attention.

In places where no institutes have been held heretofore, but having material enough for a good institute, it is sometimes difficult to start the ball rolling. Nobody likes to make the first move. Let it be understood that it is the duty of every intelligent, progressive farmer to take an interest in this. Consultation with neighbors will always meet with their co-operation. When a half dozen persons thus agree as to the advisability of holding an institute in the nearest town, or at some central location in the community which will be most accessible to the audience, let them address a request for aid to the College as above noted, and the details as to the number of representatives from the College, and when they can attend, can then be arranged.

Our exchanges in Kansas will confer a favor both on the College and their respective communities by reproducing these suggestions.

The Law of Persistence.

The law of persistence, says a recent writer, is as inevitable and as unalterable as the law of gravitation. But persistence is like genius—it is the character, in the temperament, in the mind, or it is not a quality of the individual at all. Persistence is a phase of will; still a great deal of will power may exist that is not persistence at all. Persistence is not mere blind or negative force. It has an element in it of intelligence, almost of clairvoyance. It exists because it sees. It discerns a reason for adhering to its purpose. It persists because it perceives, and in the expressive colloquialism of the day, persistence always "gets there."

But let no one imagine that persistence is a quality on which he can take advice, or which he may be able to discuss with himself and decide as to whether he will persist or not. It is not debatable ground, or, at least, the instant it becomes possible for him to debate it and weigh the reasons one way or the other, it becomes impossible for him to hold true to the original purpose. Persistence is destiny. If one knows that he can do a certain thing, the fact of the whole world's doubting it could not in the least affect his conviction. Because conviction is from within, and it can no more be altered by the impressions of an onlooker than could the color of the eye. What would it have mattered to Stephenson that his companions doubted his theory of steam locomotion? What would doubts of Edison's ideas have signified to him? When Dr. Francis Parkman, against severe illness and trials that would have daunted a less lofty spirit, persisted in his great historical work and brought it to so a remarkable degree of perfection, what was it but the clairvoyance of genius? The way that stretches into the future is illumined by an inner light. The soul is guided by this, and is calm, confident, joyful. In the very face of disaster and defeat it discerns success.

Making Roads by Steam.

Last fall the farmers of a township in Champaign County, Ill., tried an experiment of working a grader on the roads with a traction engine, such as is employed for hauling threshing machines around the country. The trial was so successful that the engine was employed again this spring. The expense is only \$4.00 a day, including fuel, water, and two men. The result shows that the work can be more satisfactorily and rapidly done than by the use of men and teams, and at far less expense. It is estimated that with one outfit all the roads in the township can be well worked over in two weeks. It would seem from this that it would be profitable to abandon the labor tax system, to raise the road tax entirely in cash, and to hire the work done by means of engines and graders. Good judges say that vastly better results could thus be accomplished at not more than half the ordinary nominal expense.

That Boy on the Farm.

In the good old days gone by it was the custom for the son, very often, to engage in the same occupation or profession as his father. And to the boy on the farm did this particularly apply. When the farmer's son married, he engaged in farming on his father's farm, if he owned one. But what a change! How many of our young men expect to engage in farming for a permanent occupation? The farmer believes his son too smart to remain on the farm and will gladly send him to school or college, or else allow him to read law, study medicine, or a like profession, believing the son is too bright to fritter his life away on the farm. The boy is anxious to become famous, and believes that he will soon attain eminence in his profession. But the rule is, the young man finds out that there are other persons as smart as he, and he tires of his profession, believing that any other would have been better, and he envies those in better circumstances. We cannot all be Washingtons and Franklins and Blaines. For proof of this I would ask you to note how many college and normal school graduates we fail to hear of after their graduation. How many lawyers are living in large cities on a "bread and water" salary or income! How many physicians are in practice at some country town, because the road to fame was not so easy as they imagined it when they were attending college! To the boy who is being reared on the farm I would say, "Stick to the farm." The time is coming, and is here, for farming to be recognized as a noble calling.

The farmer is sure of a living, and a very poor farmer he must be if he can not make that. I am acquainted with a young man who was raised on a farm. His parents greatly desired him to become a teacher, and to please them he did teach for several years, and does yet. But although he makes more than he would by farming, I know he is not contented, or never will be until he is engaged in farming on the most approved plans. I have known the boy to ask his parents why they do not wish him to engage in farming, when they followed the business all their lifetime. Their answer was that people who were too illiterate to do anything else were put to farming. Sad, sad tale. If a person is not fit for anything else, he is not fit for a farmer. And this is the excuse for so many run-down farms, and that continual wail that "farming doesn't pay."

Then we have the boy who desires to leave home and go West, and to every such one I would say "go" by all means. It will be the best dose of medicine you can take, and its effects will be noticeable when the boy returns home in a few months, fully convinced that without patient labor there can be no reward, and if he applies himself to his work after his return from his wild goose chase (which this going West often proves to be) he may become an excellent farmer. I have sympathy for the boy who desires to experiment on the farm, although his father opposes his ideas. You know that some fathers go on in the old ruts year after year, and will never try to find out anything new for themselves and will never apply what others have found out for them. They sow a certain amount of grain per acre, keep a certain kind of stock, generally scrub, because grandfather kept that kind, or did that way. They haul the manure at a certain time because father said that was the best time. They never take into consideration that the conditions may be changed, or they may have a different soil, or variable seasons are of any account. To the boy who has such a father, I would say, try and convert him to the new ways of agriculture. Try and get him to give you a small tract to make experiments, and if you are determined you shall gain the victory. —W. R. Knox, in *Practical Farmer*.

Bulbs for Winter Blooming.

For those who like to grow flowers in the living room, there is nothing better than some of the Dutch bulbs. The best of these are single Dutch hyacinths, Roman hyacinths, crocuses, early tulips, and narcissus. Their cheapness is a great point in their favor. The very best of bulbs may usually be bought anywhere for 5 cents each, and when one knows how to take advantage of the market the very best may be bought in small quantities at 1 or 2 cents each, or even less.

The first of September is the time to do the work. From this time till the first of November the bulbs may be planted in pots for blooming in the house during the winter. The planting and handling is very easy and quite simple, and success will come to the undertaking as frequently as to any experiment at house culture of plants. The following directions set forth the methods usually employed. The statements are translated from a Dutch catalogue of a firm which grows and exports largely from Holland. It is everywhere understood that the Hollanders excel in the production and culture of these plants, so that these directions have some weight when coming from a reputable firm of wholesale growers.

For the culture of hyacinths in the room, one should be ready to plant the bulbs by the beginning of October. Those which are intended for the earliest blooming must be planted at that time. Those which are for later flowering may be planted as late as November, or even later. It is important

to remark that a good soil must be supplied, for on this depends the beauty of the blossom. A good soil may be made by mixing equal parts of good old hot bed earth and good rich garden soil, to which 10 per cent of river sand should be added. Light soils, like peat, are never to be recommended.

In planning too large pots are to be avoided. Those having a diameter of four inches are best. The pots should be half filled with the soil described, the bulbs put in, and the filling completed. The earth should then be somewhat firmed about the bulbs. From one to four bulbs may be put in a four-inch pot, depending on the varieties. The point of the bulb should always come about as high as the top of the pot.

The soil should not be kept too dry, neither should it be too wet. In the latter case, it easily bakes into a cake, causing the failure of the plant, because the rootlets cannot penetrate the hard lump, and the plants are often heaved out of the pots. As soon as the bulbs are planted and properly moistened the pots may be plunged in the earth out of doors and covered several inches deep with earth. This assists the formation of roots. Or if it is not handy to bury the pots out of doors in this manner, they may simply be put in a dark but not warm room, as a cellar. Though the place should be cool, it must be free from frost.

After five or six weeks the bulbs will be rooted, and may be brought into the room. They should now have some place in a dark corner or a chest, or covered with a box, where they will not be too warm. They are not ready yet for the full temperature of the living room or kitchen. If they are placed in too warm a position at this time the leaves will quite overgrow the flowers. When the flower stem has put up three or four inches above the bulb the pots may be placed in a sunny window and the flowers will soon be out. The flower stem and leaves, which have had a sickly whitish-yellow color in the dark, will color up in a very few days. By the middle of January, or sooner, the earliest sorts may be had in their full beauty.

The largest number of failures in the culture of bulbs comes from failing to keep them sufficiently dark in the beginning and from keeping them too warm. These remarks apply especially to the single varieties. Double sorts are not so well adapted to house culture.

The earliest tulips, especially the Duc van Thols, may be grown in pots the same way. However, for this the pots should be a little larger, and from four to a dozen bulbs should be put in a pot. The narcissus may be cultivated in the same way, and with the utmost success, and some of the fine varieties which may be had will well repay any one for the care it takes to grow them.

For the earliest use the Paris or Roman hyacinths are unsurpassed, with their small but beautiful white flowers. These may be planted the first of September, and bloom, if handled as directed here, as soon as Christmas.

The plants should be watered with water which has the same temperature as the room in which the plants are kept. We recommend that the plants be set in a flat vessel of water for a while, instead of being watered from above. During blooming, the hyacinth roots take up a great deal of water if they have the opportunity.

The Chinese Sacred lily is one of the easiest things known for growing in the room. No one should fail to try it. The large bulbs cost about 25 cents apiece. They may be simply put in a dish of clean water with enough pebbles and bits of charcoal to keep the bulbs upright, and kept at the general temperature of the living room. It is best to keep them in the dark for a while, but that is not imperative. By Christmas time they will be in bloom. Prettier or more fragrant flowers it would be hard to find.

Almost any of the firms which handle garden seed also handle plants of this character and can furnish them at rates more or less reasonable. They are worth trying. —F. A. Waugh, in *Home, Field and Forum*.

Wheat as Food for Animals.

When wheat and corn are the same price per bushel it is preferable to feed wheat and sell corn. First, because wheat weighs 7 per cent heavier per bushel than corn; secondly, because wheat is weight for weight an equally good grain for fattening animals, and better for growing animals; and, thirdly, because there is much less value in fertilizing elements removed from the farm in corn than in wheat.

There are certain points to be borne in mind when one is commencing to feed wheat. Our domesticated animals are very fond of it, but are not accustomed to eating it. Precautions should consequently be observed to prevent accidents and disease from its use.

It is a matter of common observation that when full-fed horses are changed from old to new oats they are liable to attacks of indigestion, colic, and founder. If such results follow the change from old to new oats, how much more likely are they to follow a radical change, such as that from oats to wheat? For this reason wheat should at first be fed in small quantities. It should, when possible, be mixed with some other grain, and care should be taken to prevent any one animal from getting more than the quantity intended for it.

These precautions are especially necessary when wheat is fed to horses, as these animals are peculiarly liable to colic and other disturbances of the digestive organs, accompanied or followed by laminitis. Cattle, sheep, and hogs frequently crowd each other from the feeding troughs, in which case some individ-

uals obtain more than their share, and may bring on serious or fatal attacks of indigestion.

The best form in which to feed wheat is to roll or grind it into a coarse meal. It may then be fed alone, or mixed with corn meal or ground oats. When ground fine it is pasty, and adheres to the teeth, gums, and cheeks, so that it is not so readily masticated or eaten. In the form of a coarse meal it is relished by all animals; it is in a condition to be attacked by the digestive processes whether thoroughly masticated or not, and in most cases it gives the best results. Dr. Gilbert appears to have obtained better results from whole than from ground wheat when fed to sheep. Sheep feeders may, therefore, experiment with whole wheat, but wheat meal will certainly be found to give better results with all other kinds of animals.

The number of pounds of live weight that may be produced by feeding a bushel of wheat will evidently vary according to the age and condition of the animal fed. Professor Robertson, at the Ottawa Experiment Station, fed frozen wheat to hogs and secured from 9.1 to 15.46 pounds live weight from a bushel, the greater increase being from young, growing animals, and the smaller from those which were fattening.

At the South Dakota Experiment Station the hogs fed ground wheat required 4.81 pounds and those fed whole wheat required 4.91 pounds for 1 pound gain in live weight. The ground wheat fed returned 58.39 cents per bushel; the whole wheat, 51.83 cents; corn, 60 cents; and peas, 65.36 cent. The quality of pork obtained from ground wheat and corn was about equal, and was superior to that from whole wheat, peas, or mixed feed.

From the Canadian experiments it would appear that the feeding value of an equal weight of wheat is slightly in excess of that of corn; the South Dakota experiments gave better results from corn. In general, the difference would probably not be very great, but it would undoubtedly be better to mix corn and wheat, or corn, wheat, and bran, or corn, wheat, and middlings. —D. E. Salmon, Chief of Bureau of Animal Information, U. S. Department of Agriculture.

The Benefits of Discontent.

It is a happy faculty to be able to extract rays of sunshine from the unhappy social disturbances which have marked the world of labor the past few years, and the feeling of discontent which has led to these social upheavals; but in criticising the pessimistic utterances of a publicist who claimed that a "discontent is man's worst enemy," the *Washington Post* pithily says: "Considering all that the human family owes to discontent we can well afford to take a hopeful view of the unrest that is agitating nations in all parts of the world. Had our forefathers been contented to remain subjects of the British crown, this great republic, with all its benefactions to mankind, would not have been born. Had the nations of Western Europe been contented with the one-man power, their systems of constitutional and representative government would not have been established. When discontent incites the commission of crime, it finds society ready to deal with it, because the ruling classes are not contented to let criminals go unscathed."

There is a measure of truth in this thought. No man having self-respect can be expected to be kept down by the imperious, dogmatic will of a superior, merely because the one has and the other has not the means to help himself. The human nature of barbaric days is human nature still, so far as its imperious character is concerned, and the tyranny of slavery was not annihilated by the proclamation of emancipation. On the other hand, there is too much of the boy being father to the man, rather than the respecter of his parent and obedient to his wish; too much of the persuasion that Jack is as good as his master before he has learned the A, B, C of his business, and of the idea that he is able to paddle his own canoe before he has learned the real use of one or the other.

He is a wise man who is able to rule himself, but the better he knows how to do that the sooner will he be fitted to co-operate with others; for he who knows himself best, will attempt the ruling business outside of his own mentality very infrequently, and do his level best to have others co-operate with him by pulling in the same traces rather than by being driven by the thong and whip. —Colman's *Rural World*.

How Much Wheat to a Bushel?

Secretary Coburn, of the State Board of Agriculture, gives a timely hint to wheat growers, as follows: As the season for wheat-sowing is at hand, and the subject of how much to sow per acre is of no small importance, permit me to call the attention of your many agricultural readers to the wide difference in the quantity of actual seed there may be in bushels of different wheat, resulting from the size of the grains, even when of the same variety. It has been noted at the Iowa Experiment Station that one bushel of a variety grown in California contained only 489,676 grains, while a bushel of Turkey red from Iowa had 1,184,693 grains or about 2½ times as many. Other bushels of the same variety, one from Iowa and one grown in Kansas, had upwards of 900,000 grains each. The average of all the samples tested at the Station was 770,200 grains per bushel.

The point I wish to make is that while two men may be agreed that a "bushel" of wheat is about the proper quantity to sow on an acre or some other given area and proceed on that basis, one may be seeding twice, or more than twice, as heavily as the other.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Judge David Chipman, of Minneapolis, is visiting his son at College today.

Prof. and Mrs. Geo. D. Knipe of Manhattan were interested visitors Thursday morning.

The Board of Regents hold the quarterly meeting next week, beginning Tuesday afternoon.

I. A. Robertson, Fourth-year, spends his Saturdays selling goods for the Knostman Clothing Co.

Mr. Jeltz and Mr. Pope, editors of the *State Ledger* and *Call*, of Topeka, made the College a pleasant visit this morning.

Mrs. M. C. Gilmore, representing the *Topeka Mail*, called at the College this morning with a view of placing her son in the institution.

The afternoon industrials of the young men of the Fourth-year Class, while they require a few more hours at College twice a week, give more of training than under the old forenoon scheme.

The reception tendered students at the M. E. church, Monday evening of last week, was full of interest for both entertained and entertainers. All the socials, in fact, were good beyond the average, and did much to make the new students feel at home.

The Ionians have elected officers for the term as follows: President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mable Cotton; Marshal, Emelia Pfuetze; Board of Directors—Laura McKeen, Flora Day, Ada Rice.

The attendance to date is 449, against 420 at the same time last year, and is divided by classes as follows: Fourth-year, gentlemen 37, ladies 23; Third-year, gentlemen 56, ladies 33; Second-year, gentlemen 54, ladies 31; First-year A, gentlemen 90, ladies 59; First-year B, gentlemen 41, ladies 9; Post-graduate, gentlemen 6, ladies 10.

Prof. W. A. Henry, of Wisconsin University, well known throughout the country for his experiments in agriculture, writes to Pres. Fairchild: "I wish to thank you and your Board of Trustees personally and in the name of every American farmer interested in cattle feeding for the splendid work done by your Prof. C. C. Georgeson. What I wish especially to urge upon you at this time is that there be no letting up of the work already undertaken."

The student's reception at the Christian Church, on Friday evening last week, was a most enjoyable affair. After a short literary program, the following menu, prepared by Miss Margaretha Horn, '93, was served: "A County in Kansas," "Islands in the Pacific Ocean," "Types of Society in Georgia," "A Mount in the Holy Land," "Town in Comanche County, Kansas." The way the new students "got away" with that feed was exceeded only by the skill and ability of members of the faculty and older classes.

Prof. Milton Whitney, late of Johns Hopkins University, and now Chief of the Division on Agriculture Soils in the U. S. Department of Agriculture, entertained the few who braved the storm on Wednesday evening with an hour's talk on the relation of water in soils to the making of a crop. The lecture was illustrated most strikingly by lantern slides showing the fluctuations of principal crops without change in the soil, the character of soils as to fineness of particles, the effect of adding lime or acids to soils, and the proportion of water in soils found desirable for specific uses. We shall watch with interest further studies of Prof. Whitney, and shall hope to join in his work at this College.

The students' reception on Friday evening given by the College Christian Association, was well attended by both old and new students. The meeting was presided over by Geo. W. Fryhofer, President of the Y. M. C. A. Mrs. Kedzie offered an earnest prayer for the care and guidance of the great Teacher during the college year upon which we just enter, after which Prof. White in his entertaining manner told of some advantages to be gained by the student who would attend and take part in religious associations during college life, and pointed to a few things which are lost to the student who holds himself aloof from Christian work. Miss Patten, President of the Y. W. C. A., in behalf of that band of Christian workers, invited her sister students to meet with them on Sunday afternoon where a blessing awaits them all. Miss Mary Lyman, '94, assured the girls that the Christian influence of the Y. W. C. A. would help and strengthen them throughout their college work. G. W. Fryhofer, in behalf of the Y. M. C. A., urgently invited the young men to attend the Sunday afternoon meetings; and after a duet by the Misses Lyman, which was greatly appreciated by all, the meeting

was transformed into a general greeting, introduction and handshaking.

Prof. Will gave yesterday the first of the series of lectures upon Political Economy to come on alternate Fridays during the fall and winter terms. His subject yesterday was reasons for increased interest in economic questions during the present decade. The history of the past fifteen hundred years has been chiefly of nation building. At present the nations of most advancement are learning to avoid war, and to give attention to the individual citizen. Study of present conditions shows a substratum of society, especially in large cities, that is in great need of uplifting. How can these evils be cured? is the important question of economic research, which leads to re-examination of the whole field of inquiry.

GRADUATES AND FORMER STUDENTS.

G. W. Smith, student in 1891-2, has become an expert stenographer.

W. E. Smith, '93, will teach the Heller school on Fancy creek, this winter.

Leon Nagels, student in 1893-4, is enrolled in the Pharmacy Class at the University.

D. C. Arnold, Third-year in 1893-4, is taking the Engineering Course at the State University.

E. L. Frowe, '94, visited College two days last week. He will spend the year at Washburn College.

J. W. Bayles, '89, is exchange editor of the *Campus*, the Ottawa University paper. Mr. Bayles graduates there next year.

Ruth T. Stokes, '92, returns this year to complete her post-graduate course, bringing two sisters to enter the course.

F. W. Dunn, '84, Assistant in Irrigation at Garden City, will visit the College next week for consultation with the Station Council.

L. P. Brous, '86, is spending this term in post graduate study for improvement along the line of his profession as an architect.

L. P. Brous, '86, Ruth T. Stokes, '92, and Isabella R. Frisbie, '94, are teaching special classes as student assistants this fall.

E. Jeanette Zimmerman, '91, has taken up post-graduate study this year, a younger sister having just entered college here.

Maude Knickerbocker, '93, is a student at the South Dakota State Normal School at Spearfish. She expects to graduate in June.

W. C. Moore, '88, editor of the *Junction City Union*, offers the cheer of a home, now that he has the aid of Mrs. Moore, to friends from the College.

Harry E. Moore, '91, is still with Kingman & Co., of Kansas City, Mo., and has charge of the bicycle branch of their business besides doing clerical work.

W. W. Robison, Second-year in 1891-2, having finished his course in the Vermont Dairy School, has taken charge of the dairy at Eilerslie, Rhinecliff, N. Y.

R. S. Reed, '92, writes that, having failed to secure school this fall, he will spend the year at the State Normal School with a view to special training for teaching.

Ben Skinner, '91, is attending the Kansas City Medical College. Ben has been wavering between medicine and law for a long time, teaching school in the meantime.

Charlotte J. Short, '91, appears in the annual report of the Storrs Agricultural College of Connecticut as Professor of Domestic Science with an excellent report of work in progress.

Mary B. Senn, '90, called at the College Wednesday and Thursday on her way to the Agricultural College of North Dakota at Fargo, where she is to occupy the chair of Domestic Science.

H. G. Pope, '94, writes from Lawrence of being in the Junior Class, School of Arts, State University. His brother Warner, '92, is a student in the University Law School, and a member of the Football Team.

J. F. LaTourette, '77, of Fort Defiance, Ariz., is visiting with his sister, Mrs. Cavanaugh. Of classmates, Mr. LaTourette finds in Manhattan three of the class of nine—Miss Ella Child, Prof. Failyer, and Mr. William Ulrich.

E. M. Anderson, Second-year in 1884-5, writes from the old home in Cowley County, of continued interest in the College and its work, and proves his statements by sending a younger brother to be prepared for a life of usefulness.

Isabella Frisbie, Lorena Helder, Stella Kimball, Mary Lyman, Minnie and Winnie Romick, Jennie Smith, Lucy Waters, C. R. Hutchings, I. Jones, W. H. Moore, V. I. Sandt, C. C. Smith and John Stingley, by their "more or less" frequent appearance at college, keep green the memory of '94.

S. I. Borton, '90, is now teaching at Virgil. Report has it that he has been "mentioned" by one of the great political parties in convention assembled, for the office of County Superintendent of Public Instruction of Greenwood County. The *Industrialist* extends words of congratulation and endorsement.

COLLEGE ORGANIZATIONS.

September 15th.

The Websters were called to order in the new Society Hall promptly at 8 o'clock, by E. A. Webster. W. H. Stewart was appointed Chairman. Roll call found a large number of Websters present. The Society was led in devotion by G. C. Wheeler, after which John Harman was appointed Corresponding Secretary. It being election night, the order of debate was passed and F. R. Jolly in an address of welcome made some impressive remarks to new students. J. B. Norton delivered an extract from Webster in a clear and forcible manner. This was followed by a piece of music by E. B. Patten and H. H. French, which they rendered in a very pleasing way. The election of officers passed off quietly, and with a few exceptions the rules were suspended and the vote made unanimous. The following is a list of officers for the fall term: President, F. J. Smith; Vice-President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, Ted Morse; Marshal, J. B. Norton; Board of Directors—J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Tremblay, and R. W. Bishoff. J. B. H.

September 15th.

President Barnett called the Hamiltons to order in their new room. Roll call showed a goodly number present for the first night of the year. Devotion by C. E. Pincomb. The following officers were elected: President, R. J. Barnett; Vice-President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, and F. A. Dawley. The program was carried forward one week, but by request G. B. Norris and H. G. Johnson favored the Society with an excellent instrumental duet. A committee of two was appointed to confer with the Ionians in regard to furnishing the new Society room. A few minutes being left, the Society entered upon extemporaneous speaking, and various subjects were discussed. F. A. D.

September 14th.

After three months of absence, the Alpha Betas were again assembled, not in the old familiar Society hall, adored by all students, but in its new home. We find ourselves situated in a new and capacious assembly room, one of the fine halls in the Library and Science Building, which is set apart for the occupancy of the several societies. We have looked forward to the occupancy of the Society Parlor with intense longing, and hope in the years to come the Society members will look back and think of the year '94 with pleasure, when this new home was given us. Although the day was a stormy one, a large audience of members and visitors were present to listen to the first program of the term, which was pronounced excellent. Promptly at 2:30 the Society was called to order with Vice-President Phipps in the chair. The first on the program was a well-rendered vocal solo, entitled, "Sweet Prairie," by Mr. R. W. Clothier, accompanied at the organ by Grace Secrest. Society was led in devotion by Miss Havens. Officers pro tem were then chosen to fill the officers' vacant chairs, and as there was much urgent business to attend to, the orders on the program of oration, debate, and extemporaneous speaking were passed. A very interesting number of the society paper, "The Gleaner," was well prepared and nicely read by the editor, Fannie Parkinson. Some subjects treated of were: "College Life in Vacation," "The Old Society Room," "Aspiration of the Third-year," "Vacation," "Who's to do the Work?" and others, the poet, prose writer, and humorist showing their skill. As the constitution calls for an election of officers at the first session of the term, this order was now taken up and an excellent staff of officers elected for the coming fall term. The following worthy members were honored by the Society in being chosen to fill its several offices: President, W. H. Phipps; Vice-president, Elva Palmer; Recording Secretary, Grace Secrest; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Miss Havens; Marshal, Mary Paddleford; President of Board, A. C. Peck; members of Board, Fannie Parkinson, A. D. Ridenour, R. W. Clothier, J. S. B. Norton, Miss Havens, and Nora Fryhofer. M. A. L.

Standing Committees.

The President has appointed the following committees of the Faculty for the ensuing year:—

Post-graduate Courses—Professors Failyer, Popenoe, Walters, Hood, Georgeson, and Hitchcock. Museums—Professors Popenoe, Graham, Mayo, Hitchcock, Mason, and Willard.

Library—Professors Lantz, Failyer, Popenoe, Olin, Georgeson, and Miss Pearce.

Industrialist and Press Club—Professors Walters, Failyer, Olin, Thompson, Georgeson, and Jones.

Examinations and Grades—Secretary Graham, Professors Lantz, Olin, White, and Misses Harper, and Rupp.

Public Exercises—Professors Olin, Kedzie, Brown, White, Jones, and Will.

Social and Literary Entertainments—Mrs. Kedzie, Mrs. Winchip, Professors Hood and Brown, and Misses Harper and Rupp.

Buildings—Professors Hood, Walters, Mayo, Willard, Hitchcock, and Mason.

Farmers' Institutes and Lecture Course—Professors Georgeson, Failyer, Popenoe, Walters, Graham, and Mason.

Catalogue, Blanks, etc.—Professors White, Lantz, Graham, Thompson, Willard, and Will.

Athletics and Calisthenics—Professors Mayo, Failyer, Walters, Mrs. Kedzie, Mrs. Winchip, and Capt. Cavanaugh.

Grounds—Professors Mason, Popenoe, Lantz, Hood, Georgeson, and Cavanaugh.

FARM NOTES FROM VARIOUS SOURCES.

There is no trouble in making farming pay for the labor bestowed upon it, together with a good per cent on the value of the property concerned. We know this from our own operations, and we also see it illustrated by any number of farmers round about us.—*Farmer's Home.*

Give your children reading matter which is good, sound, entertaining, and morally healthful? Subscribe for the best farm newspaper for yourself and the best magazine for your wife. Have the means of contentment and improvement at home, and outside temptations to yourself and boys will have no power.

In figuring the profits, consider the condition in which the farm has been left, as well as the amount of produce taken from it. You have not been making money if it has been wholly at the expense of the fertility of the soil. If you have but lived, and have made the farm better, you are worth just that much more.—*Farmer's Home.*

The idea that there is no money in farming is all nonsense. Go through any community of farmers and it will be found they are generally getting on well in the world. Anything different from this is the exception to the rule. At the same time they have but a small capital invested, yet they spend money freely, have more of the comforts, luxuries, and pleasures of life than any other class of laboring people, and in addition, as a rule, lay by something each year out of the profits of their business.—*Exchange.*

Boys, I don't want you to leave the farm. I wanted to leave the farm once, and I would have left it, but my health broke down and I had to go back to regain my health. I am now glad that I had to go back. It is one of the surest callings under the sun for the average man. Now, boys, I think you will see an inscription over the gateway leading into every city, if you look closely. It reads, "Of all the farm boys who enter here to remain, not one in five hundred succeeds so well as though he had remained on the farm." Think of it, boys. I could not find that inscription when I was a boy, because I did not want to find it. I have many times seen it since. And if you don't want to find it, you will not likely see it, but take my word for it boys, it is there.—*Prof. Shaw, in Farm, Stock, and Home.*

Notes from the *Farmer's Home*: Economy of production and value of product is the standard of merit.—Broad tires lighten the draft on soft ground, and will not cut up the surface.—The by-products of the farm are matters that we cannot afford to slight.—In nearly all cases, the farther the farmer is from market, the greater need of condensing the products by feeding grain to stock.—The longer it takes to fatten an animal, the greater becomes its cost of maintenance. Push from the start if you want to make the best profit.—When we consider that agriculture is the most ancient and honorable occupation under the sun—the foundation upon which life itself depends—can anyone distrust the faithfulness of mother earth? Have faith in your business, and in your ability to live, be the farm ever so little.—The market value of food products fed to any animal begins to decrease as soon as the animal arrives at maturity. The better plan is to sell whenever matured.—At this time, having too much live stock is almost, if not quite, as bad as having too much land. Only the stock that can be sheltered well and fed well should be kept.—As the profit in stock growing comes only after the food for support has been paid for, unless an animal can be gotten past this point, do not think of putting it up for the winter.

The Work of the Leaves.

In the fall of the year the deciduous trees shed their leaves, the organs by which they derive nutrition from the atmosphere in the form of carbonic acid. During the period of growth each leaf is an active chemical laboratory, drinking in carbonic acid, decomposing it, assimilating the carbon, and giving off the superfluous oxygen. This decomposition of the carbonic acid takes place only during the day. Light is essential to the process, and our short winter days do not furnish it in sufficient quantity; moreover, leaves are delicate structures, affording very little protection from cold to the sap circulating through them, and would, consequently, if they remained on the tree, be killed by the first frost, causing a sudden arrest of all the functions of life, and a consequent shock to the system which would almost certainly be destructive of life.

The transpiration of plants is a very active process; the water taken up by the roots carries small quantities of nutritive matter in solution; this is assimilated by the plant, and the water given off by the leaves. An idea of the activity of the process will be gathered from the statement that a sunflower three feet high requires double its own weight of water every twenty-four hours. With a fall of temperature, the roots cease to take up water. The pores of a pumpkin root close at a temperature of 45 degrees Fahrenheit. The leaves continue to transpire, and the plant gradually dies; the leaves wither for want of moisture, and are no longer capable of performing their functions. The fall of the leaves at the beginning of winter is thus necessary to the plant's protection. If they were killed off suddenly by the frost while in the active exercise of their functions the congelation of the large quantity of water circulating through the plant would rupture the tissues and cause death; but the water in circulation having been gradually evaporated at an earlier stage, the plant is in no danger from this cause.—*Farmers' Review.*

CLASS HOURS, FALL TERM--Fourteen Weeks.

HOUR.	SPECIAL CLASSES.				FIRST YEAR.				SECOND YEAR.				THIRD YEAR.				FOURTH YEAR.			
	Chapel Exercises.				Chapel Exercises.				Chapel Exercises.				Chapel Exercises.				Chapel Exercises.			
8:30	Industrials.	English.	History	Arithmetic.	Rhetoricals, F. H. Drawing.	El. Physics.	Algebra I.	Geom. Drawing, Bookkeeping.	El. Physics.	Horticulture.	Industrials.	Entomology.	Chem. of Foods, Des. Geometry.	General History.	Trigonometry and Surveying.	General History.	Agriculture.	Literature.		
8:50	Industrials.	English.	History	Arithmetic.	Industrials.	Bookkeeping, Geom. Drawing.	Geom. Drawing, Bookkeeping.	Industrials.	El. Physics.	El. Physics.	Chemical Practice, Rhetoricals.	Chemistry.	Chem. of Foods, Des. Geometry.	Trigonometry and Surveying.	Trigonometry and Surveying.	Trigonometry and Surveying.	Psychology.			
9:40	Industrials.	Geography.	Arithmetic.		English Analysis.	Industrials.	F. H. Drawing.	Industrials.	Chemistry.	Chemistry.	Chemical Practice, Rhetoricals.	Chemistry.	Trigonometry and Surveying.	Des. Geometry, Chem. of Foods.	Des. Geometry, Chem. of Foods.	Des. Geometry, Chem. of Foods.	Zoology.	Zoology.	Rhetoricals, T. Drawing 3 days.	Rhetoricals, T. Drawing 3 days.
10:30					Algebra I.	Algebra I.	Industrials.	Industrials.	Chemical Practice, Rhetoricals.	Chemical Practice, Rhetoricals.	Entomology.	Industrials.	Rhetoricals, Surveying Prac.	Industrials.	Industrials.	Industrials.				
11:20					Rhetoricals, F. H. Drawing.	Rhetoricals, F. H. Drawing.	English Analysis.	English Analysis.	Chemical Practice, Rhetoricals.	Chemical Practice, Rhetoricals.	Chemistry.	Algebra III.	Rhetoricals, Surveying Prac.	Industrials.	Industrials.	Rhetoricals, Surveying Prac.				
12:10					Industrials.	Industrials.	Industrials.	Industrials.	Industrials.	Industrials.	Chemical Practice, Rhetoricals.	Chemistry.	Algebra III.	Industrials.	Industrials.	Rhetoricals, Surveying Prac.				
1:30																	Industrials, two days.			
3:50																	Drill, optional.			

A Cincinnati man describes for a reporter of the Enquirer, of that city, a novel sight he saw recently at a mill devoted to making paper of pine tree pulp. "I was invited to select a tree, which I did, and it was cut down for me in the morning. I watched it during the day undergoing the various processes of paper-making, and at 6 o'clock that evening the tree was paper. At midnight a portion of it was sufficiently dry to be taken to a printing office, and a few of the copies of the next morning's paper were printed on this product. From a tree to a printed newspaper in twenty-four hours is probably the best time on record."

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CO-OPERATION. I.

BY J. E. PAYNE, '87.

THE planets in the solar system, the millions of stars which twinkle each evening in the milky-way, the comets which fly past our earth and vanish in space, the millions of meteors which dart through the ether, are all kept in their places by the co-operation of the forces of nature acting in accord with divine law. On earth, nature's forces, when not artificially restrained, co-operate in distributing plants and animals.

Plants must eat the food which is within reach of their roots. Animals have a wider range, but they are limited to the findings of the day. No animal recognizes ownership of property in its fellows unless they are able to punish trespassers.

Man is omnivorous, and when he first began life on earth his diet was confined to the products of the region in which he lived. As the different parts of the earth became peopled, men began to exchange products. This was a kind of co-operation which has grown until all people co-operate in supplying each other with the good things of earth.

As exchanges increased, a difficulty arose. The shrewd men who travelled about creating wants in the simple people who commonly used only what grew in their own lands, learned that they could get a large profit for making the exchanges by asking high prices for their wares. Others tried the same business, and thus the competitive system of commerce grew up. But the competitive system seldom held sway long, as the most influential firms (those strong enough to make others respect them) agreed upon prices and then drove all weaker ones out of business, thus turning competition into limited co-operation.

When any great enterprise is to be undertaken, the leaders of the world co-operate for mutual benefit. The Suez canal could never have been made had not the nations of Europe worked. The co-operation of labor and capital has bridged our rivers, built our railroads, dug our canals, founded our colleges, made our ships, and fed and clothed our people. Co-operation has bound the people of the earth together with iron bonds and welded these with electricity.

Notwithstanding the great work which co-operation has done, it is but little understood, and is yet in its infancy. The people who attempt to co-operate usually confine their efforts to aiding their neighbors to supply their wants more cheaply and to sell their products at higher prices than they could by acting singly. The man who raises corn and wheat wants to sell his products at a high price to the sugar planter and buy sugar at the lowest price possible; thus playing a cut-throat game with his neighbors in other sections. The doctrine "Sell in the highest market and buy in the cheapest" is antagonistic to true co-operation, which is in accord with "Live and let live."

Every man owes his best efforts to society for the blessing of having been born into a civilization which has been built up by the best efforts of the wise and good men of ages past. He is "heir of all the ages," and all ages to come should be his heirs. If we live only for food and clothing and make these material comforts the chief aim in life, we certainly are not able to do the best work of which we are capable for the satisfaction of these material wants is only a means to an end. The main purpose of life should be to aid in building up our civilization and making a paradise on earth. This object can be accomplished by the unselfish co-operation of all men, using all the forces of nature which are at their command.

DISLIKE FOR MANUAL LABOR.

BY ALICE RUPP.

IN the past year we have read many interesting articles, any one of which suggests the idea that boys are discontented with farm labor and are endeavoring to fit themselves for other pursuits in life. Is this assertion to be affirmed only of farmers' sons, or is it equally true of the sons of mechanics and other laborers? Is not this tendency to quit the occupation of the artisan for that of the professions—which are already overstocked—or for mercantile pursuits—in which, as proved by statistics, ninety-five in a hundred fail—due, in many instances, as much to the boy's early training as to his own inclination to forsake his father's vocation?

One needs but to study the "labor problem" as evolved by the strike of the present summer to become thoroughly convinced that Americans are annually becoming more and more averse to manual labor.

The ambition of a large proportion of boys who choose their own calling, unfettered by parental advice or judgment, seems to be to get a living by their wits, even at the cost of independence and self-respect, and a fearful wear and tear of conscience. Another proportion of boys are taught from "infancy to years of discretion" to look upon manual labor as something a little lower than the professions: so the slightest physical disability is thought sufficient reason for escape from "labor's iron chains," and the wielding of hoe or axe is as sure death as the much dreaded smallpox or diphtheria. As a natural result, shops and factories are becoming filled with foreigners, the ownership of some of the finest farms in Puritan New England is passing from Americans to Irishmen and Germans, while in the west great tracts of the very best lands are owned by English syndicates.

Fifty years ago a father was not ashamed to put his boy to the plow or mechanical trades. Times have changed since then, and they are "too feeble" for bodily labor; one has a pain in his side, another "a very delicate constitution," another is nervous, and so poor Tommy and Billy and Bobby are hustled off to the city to measure tape, weigh coffee, or read law. The ministry, too, receives its quota of these delicate individuals not fit for farm or shop. Said a dear old mother, with hands brown and hardened by woman's work on the farm, "Can you tell me something about this college they call De Puw? You see my boy, Freddie, is kinder delicate like, so me and his father talked the matter over and concluded that he'd make a good minister, so we're going to send him to that College this winter." And her eyes fairly sparkled with love at the thought of the invalid becoming a minister. A frail body the only necessary requirement, though the mind be as blank as last year's cash book!

It never seems to occur to the foolish parents that moderate manual labor in the pure and bracing air is just what these puny, sickly lads need, and that to send them to the crowded city is to send them to their graves. Let them follow the plow, sling the sledge, or shove the plane, and their sunken cheeks will be plumped out, and their pinched chests expanded so that the lungs hitherto cribbed and cramped will have room to play. The nerves will be invigorated and strengthened and the muscles hardened; and when they shall have cast off their jackets, instead of being thin, pale, sickly individuals, they will have assumed the size and configuration of men.

A lawyer's office, counting room, or grocery is the last place to which a delicately constitutioned boy should be sent. The ruin of health is as sure there as in the mines of Siberia. Even of those men in our great cities who are so fortunate as to possess constitutions of iron, only five per cent succeed, and they only by working like slaves and leading hermit lives; that is, every social or literary enjoyment must be sacrificed to the stern, driving, never-let-up commander, Business. The other ninety-five per cent, after years of toil and anxiety, become bankrupt or retire, and having meanwhile acquired a thorough disgust and unfitness for manual labor, bitterly regret the day when they forsook the peaceful pursuits and quiet enjoyments of the country for the excitement, the care, and the constant competitions of city life.

A GREAT GROUP OF AUTHORS.

BY PROF. O. E. OLIN.

ON the 16th of August, in the town of Cummington in northwestern Massachusetts, was a scene of unusual interest. This year is the centennial of Bryant's birth; and the relatives, friends, and admirers of the poet, to the number of many hundreds, gathered in a grove by the old homestead, where on the hillside in the open air were held impressive memorial exercises. There in the presence of the same scenes of nature that had inspired the soul of the young writer, men delighted to recall the calm personality, the clear purity, and the sterling manhood of him who struck the first clear note in American literature.

This anniversary reminds us that the real literature of our country is less than a hundred years old. The publication of Bryant's *Thanatopsis* and Irving's *Sketch Book* is within the memory of many now living; and the whole work of founding and giving direction and enduring life to a national literature has been done by a single generation. The eight men who may be called the great lights of American literature—Irving, Bryant, Emerson, Hawthorne, Long-

fellow, Whittier, Holmes, and Lowell—were born within a period of thirty-six years, from Irving in 1783 to Lowell in 1819; and all lived beyond the middle of the century, while Dr. Holmes "The last leaf upon the tree" is still hale at eighty-five.

To these men was given a task of unusual difficulty. In a land of no traditions, no historical perspective, no vital connection with what the world had been, they were to develop a literature that should voice universal experience and yet be distinctive enough to be classed as national. This work they did, and did well, giving us a literature whose depth and breadth and purity make it well worthy a place in the long lines of English writing.

It does not become Americans to boast, but, considering the conditions, we certainly have reason to be proud of our first generation of literary men. Irving, by the charm of manner in both his personal and literary character, compelled the recognition of Europe when England's scornful question was, "Who reads an American book?" In originality and power, we need deny excellence to none of them. While Bryant in his best work falls much below Wordsworth in his best, yet Bryant is uniformly good, and the average of his work will at least equal the average of Wordsworth's. Longfellow sang to English-speaking people everywhere, and his name is as much a household word in England as Tennyson's is with us. Whittier was a great molder and supporter of public opinion in the fearful times of slavery's fiery judgment. Hawthorne in his story telling may not be ranked with the world's great, but his work can never be imitated. Holmes in his "Breakfast Table Series" invented and perfected a style that is a distinct gain to literature. Lowell taught our younger men the charm of dialect, and as a critic of literature he receives as hearty recognition in England as in America. Emerson, in his essays and lectures, stands almost alone. In clearness and expansiveness of thought he excels Bacon; in sweetness of both thought and expression he passes Arnold and Macaulay; while in depth and vigor he is as virile as Carlyle. Many of the lines of life today are gathering around his philosophy, and we may well claim for him a place among the great essayists of English literature.

These men worked, shoulder to shoulder, with common aims and interests. There was an utter absence of the petty jealousies that marked the time of Pope, when each successful writer felt that all others were arrayed against him: neither was there any of the feeling that made Scott quit the field of poetry because Byron "beat" him. Their sympathies became so greatly interwoven that we naturally associate their names, though each was pre-eminent in his own field; and while we may not, in justice to the long succession of literary names, call these men great, individually, yet collectively we can; and for much that is soundest and best in American literature we shall, for years to come, turn to this great group of authors.

Wide Tires Make Good Roads.

A gentleman from Pennsylvania in a private letter asked the writer: "Can you refer me to the record of any experiment with the wide tire except your own?"

We know of no other experiment on the subject. Popular belief has, however crystallized into a practice in legislation that indicates a widespread belief that wide tires are of distinctive advantage. New York permitted tires six inches wide to pass over its roads for one-half toll, and those twelve inches wide to pass free. This same principle governs the legislators of France and of other foreign countries. The experiment alluded to was made in Missouri and between tires one and one-half inches wide and those three inches wide. The load, including the wagon, was 3,635 pounds, and was drawn over an old and tough blue grass sward. The former required 439 pounds and the latter but 310 pounds. If this is put in more intelligible language it is readily seen that the force required to draw 2,000 pounds in the former case would in the latter draw 3,248 pounds, or over 60 per cent more. The cause of the difference in the result is found of course in the fact that in the former case the wheels cut through the sward, while in the latter case they rode over the ground. This is quite an important factor to the farm, as in the one case the sward is cut up, and in the other it is merely pressed together. In this fact is found the reason that States are willing to permit wide tires the freedom of the road; they but serve to roll the road, and are of real benefit to the highway, smoothing out the ruts made by narrow wheels and solidifying the road bed where no ruts exist. In purchasing for the farm, tires two and one-half inches wide have been secured, a too narrow wheel, perhaps, yet uncertainty exists on this point.

This uncertainty exists, first, because others use narrow wheels on the road, and thus make it harder for the farm wagon when it goes to market; second, when the up-hill pull is made there is an extra load to carry, although this may be small if the fellows are made thin; but it is the up-hill load that is to be avoided as far as is possible.

As the work of the wheels is mainly on the farm

and very much over plowed ground, where the wheels ordinarily cut through badly, and as mud exists but for a short time here and the work of the wheels on the road at this time mainly avoidable, it was deemed best to compromise on the matter and secure a set that would ride over the turf most of the time, and all of the time fairly well. Have any of our readers experience with wide tires on the road and on the farm at varying seasons of the year?—*Mirror and Farmer*.

The Training Farmers Need.

Our fathers on the farm were producers in the main for home consumption. Each homestead was expected to be self-supporting, or nearly so. But today the farmer everywhere is a trader. In Dakota he raises his truck for Chicago, his wheat for London, his corn for New York. On the other hand, he buys his fuel, lights, clothes, most of his food, and his comforts. This fling him in with the world of speculators and adventurers. On the old plan the farmer was everywhere moderately successful. He was educated for that style of work and to be content with that style of life. Now machinery has elbowed him out of his pride, skill, and art; and his wife is also left without her craft. He no longer swings his scythe with pride, or his ax with rhythm. She does not sew and knit. The change involves new needs, new desires, new methods. It is impossible to make the farm universally profitable on such a system. The bottom of the difficulty is not some mystery; nor is the cure some nostrum in the way of statute law.

The secret is that our common school education is not adapted to create a race of farmers capable of adjusting themselves to the times. We are educating away from the farms, and not toward them. The solution of the labor problem is not in legislation, but in improved tact and skill in the blood and in the fingers of the laborers. The marriage problem will be settled, not by layer on layer of laws, but in a higher moral education of boys and girls to comprehend the purpose of life as altruistic instead of egotistic. The farm perplexity is in a peculiar manner dependent upon defective education. So long as the old order of things existed, the curriculum of common education was satisfactory. The farm boy of the early part of our century had two sorts of education; one-half of it was home training, the other half was from the schools. At home he had manual culture; he was taught to handle tools such as were used, and to be proud of his skill. At school all he needed was the three R's. The farm boy needed only to read, to write, and to cipher; the rest of his education was on the land.

But notice how total is the change. That part of the boy's education which consisted in skillful handling of scythe and ax and other tools is useless and vacated. So far as the three R's are concerned, they can mostly be taught at home. What we want of our country schools is to make farming today intelligent, interesting, and profitable. The boys and girls should first of all be taught the composition of the rocks and soils with which they have to deal. This should be complemented with a good knowledge of plant and animal life. I suppose that no one could be more ignorant of these things than the average farmer. He is in no case taught in the common schools the structure of the animals he employs, or the grains that he eats. Geology I would follow with biology in its forms of zoology and botany, and in its divisions of physiology, entomology, and ornithology; that is, I insist that our country schools shall undertake to make farmers. The boy on the farm—and the girl quite as much—needs to know the things under his feet and over his head—the soil, the life in and on the soil, and his relation to them. Before the age of seven or eight, in well-to-do families where kindergartens are impossible, the child should be taught chiefly to observe. He should learn to see well and to use all his senses. After that age books should be used as aids to observation; not to dispense with original observation, but to assist. Every child should become an investigator. When this change is made, and the curriculum is readjusted as suggested, I do not say that you cannot drive our boys away from the farms into trade and manufacture; but I do say that, unless a lad is born with a particular bias for something else, he will love the land so that he will not wish to leave.—*E. P. Powell, in the New England Magazine*.

Smaller Farms and Better Farming.

Horace Greeley's advice, "Go West, young man, and grow up with the country," has been followed by thousands in years gone by to their own great profit; but now that there is no longer any West for them to go to and grow up with, what are the young men of the present and future generations to do? Shall they continue to flock to the cities as they have been doing for the past decade under the mistaken idea that manufactures and commerce were the only roads to ease and affluence, and that only here could life be made worth a living? The vast army of the unemployed, the starving strikers, and the wandering Coxeyites furnish a striking illustration of what this hegira to the cities has led to. What, then, shall be done, and where shall our young men go? The facts are we have been living under a highly artificial condition of things for thirty years past, and this is especially true of the farming community in the West generally. The farmers all over the great Western States are "land poor." With the great abundance and low prices of rich farming lands the early settlers have grubbed up broad acres until the

very ownership, with its consequent high taxes and slipshod methods, has made them poor, and the mortgages with which large areas of their lands are plastered keep the owners poor. A large proportion of these men were themselves unaccustomed to the business of farming, and this was true to a still much greater extent of the hired help upon which they depended. And now they find that, to use an expressive piece of slang, "they have bit off more than they can chew."

There is a remedy for this state of things, and it must be resorted to sooner or later—and the sooner the better. The old men must divide up their farms with the boys, and better methods of farming must be adopted. In a conversation which the writer hereof had not long since with a successful practical farmer who had given much thought to this subject, the latter remarked; "We are all trying to do more than we can do well, and as a matter of fact, nothing that we do is more than half done. We have a vast amount of capital locked up in lands that are not worked up to one-half their capacity. I have now a farm of over two hundred acres all under cultivation, but I have no hesitation in affirming that I could by more thorough cultivation and more economical methods generally realize more money each year if I confined my attention entirely to a farm of eighty acres. I know I can raise as much corn from ten acres as I now do from twenty acres, and the same is measurably true of all other crops. We have got to come to it. There is no sense in having 200 acres of land, nominally worth say \$40 an acre, when eighty acres may be made to produce just as much. We must divide up our farms with our sons and sons-in-law, and keep them with us instead of turning them loose upon the towns and cities to become tramps and Coxeyites. The young men must learn to farm with brains as well as with muscle, and then we shall see what the average eighty-acre farm of the West can be made to produce."

This farmer expressed the opinion that this subdivision of farms was inevitable in the near future, and he drew a glowing picture of the social, moral, educational, and political advantages that would ensue when eighty-acre farms become the rule instead of the exception in this country. What do *Gazette* readers think of the idea?—*Breeder's Gazette*.

Agricultural Education.

This age has arrived at the conclusion that a liberal education is of fundamental importance to individuals and to the State. Any mental training, whether it be special or general, increases the powers of the mind, whether that mind be associated with the farm, the shop, or the counting room. In these times, when the rivalry of industries is as sharp as formerly was that of individuals, when supremacy in social, moral, intellectual, industrial, and political life is founded not alone upon brains in the abstract, but upon educated or trained brains in the concrete, no industry can secure a standing in either of these fields of activity, except upon the basis of intellectual strength.

The relatively dispersive or isolated character of farming demands for it a degree of intelligence that is not required in other vocations. Despite the force of numbers, farming has remained the most important of the larger industries in the affairs of life. Force controls matter, and intellectual force all other forms of force, and trained intellects, whether in individuals or in the individuals of an industry as a unit, untrained intellects. The sayings of the old Chinese philosopher Mencius, who spoke long before the Christian era, is true today: "Those who work with their minds govern those who work with their hands," and we may add, in accordance with the degree these are involved in an occupation.

Our plea is not that a general is superior to a special education; on the contrary, we range ourselves in line with those who would combine the two and specialize on industrial lines, but at this time a plea for a more general education on higher lines than farmers as a mass are securing. Shut off from the high school that becomes the source of inspiration of the villager from the academy, a middle college course should be more patronized by the sons and daughters of the farm.—*J. W. Sanborn, in Mirror and Farmer*.

Will It Pay?

When used in the best sense of the word, the question at the head of this article is one of the utmost importance to each of us, and should be asked, and after due deliberation receive an intelligent answer from each one before engaging in any new enterprise.

From an intimate acquaintance with the methods of farmers, it seems to us that many fail to ask this question at the proper time, and to so study the subject before them as to be able to intelligently answer it in advance; and this is the time it ought to be answered, for not only does it require no wisdom to answer it after the results are known, but it is then too late to avoid loss if the answer must be No.

We know that there are uncertainties connected with farming, and that circumstances beyond the control of the farmer may shorten or destroy his crops, but we also know that an intelligent study of the conditions by which the farmer is surrounded, and the resources at his command, will enable him to avoid disasters which overtake the man who fails to do intelligent thinking and planning.

It is difficult to understand why so many farmers fail to study and forecast, so that they may have an intelligent idea at the beginning of the year as to what their income and expenses will be, but it is probably because the earth is such an indulgent mother that she grants a living (of some sort) to even the lazy and improvident; but she will also plentifully reward intelligent, well-directed effort.—*Home and Farm*.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Rev. Mr. Riley of Manhattan led in Chapel exercises Thursday morning.

The College buys the bonds of School District No. 54, Riley County, for \$1000.

Arthur Davis is telegraph operator at McPherson for the Atchison, Topeka and Santa Fe railroad.

Prof. Failyer is in Great Bend today to witness the testing of a number of pumps used for irrigation purposes.

Fourth-years: Steuart, Patten, Kellogg, Peck, and Otten, have charge of the five squads of the Surveying Class.

The Chemical Department gains a new office by the cleaning and carpeting of the small private laboratory in the east wing.

Congressman John Davis, in company of Messrs. Wm. Bower and Sam Long of the city, were interested visitors for a short time on Saturday last.

On Tuesday morning the Faculty and students were favored with songs by the Illinois Prohibition singers, the Meneley trio, composed of two brothers and a sister.

The Third-year Class has elected officers to serve for the present term as follows: President, F. E. Uhl; Vice-president, Mabel Cotton; Secretary and Treasurer, Clara Newell; Marshal, A. L. Peter.

The following members have been chosen to serve as officers of the Fourth-year Class for the coming year: R. J. Barnett, President; Hortensia Harman, Vice-president; G. A. Dean, Secretary; T. W. Morse, Treasurer; Flora Day, Marshal.

Hon. David Overmeyer, Democratic nominee for Governor, in company of Hon. Sam Kimble, '73, Postmaster J. J. Davis, J. Q. A. Sheldon, and a representative of the Kansas City Times, were pleasant and interested visitors on Monday afternoon.

Regent Secrest on Wednesday morning greeted the students with some earnest words. He directed his remarks especially to the new students, showing them how they came here, and what they came for, and entreated them not to neglect filial duties while here, but write home every week.

Mr. Clarence Greeley, a nephew of Horace Greeley, visited the College on Monday. Mr. Greeley knew many professors and students here in the seventies, having been surveyor of Riley County for several years. He has recently been lecturing, but goes soon to Massachusetts to preach.

The College Ball Club of students from various classes met and suffered defeat by the "first nine" of Manhattan yesterday afternoon by a score of 6 to 5. There is good material in the students' ranks this season, and if the club be strengthened in a few weak spots, and practiced together, competitors will have to look after their laurels.

The Chemical Department's experiments in the improvement of sorghum by seed selection will of necessity be retarded this year by reason of the total failure of the crop by drouth. There remains, however, selected seed in sufficient quantity to seed the plots next year, when the experiments will be continued and carried, it is only reasonable to expect, to a successful conclusion, since a considerable gain in the sugar content has already been made in the three years the work has been in progress.

The public hour was occupied yesterday by the First Division of the Third-year Class with declamations as follows: J. D. Trumbull, "Impurities in the Air;" Harriet Vandivert, "A Description of Corea;" J. M. Westgate, "The Bread and Butter Question;" Elsie Waters, "The Grammar of Life;" O. A. Stingley, "A Desire for War;" C. F. Doane, "The Power of Knowledge;" Frances Thackrey, "Julius Caesar;" M. G. Spaulding, "An American Idea;" Gertrude Stump, "The Heritage of Culture;" F. E. Uhl, "The March of Mind." The exercises were opened with a selection by the College Orchestra, and pleasingly varied with a vocal duet, "Shells of the Ocean," by Lorena Helder and Mabel Selby.

The Horticultural Department shipped last Tuesday 51 varieties of choice grapes to Mr. John E. Frost, Land Commissioner of the A. T. and S. F. Ry. These will form a part of the display which that company will make of Kansas food products at the Food and Health Exhibit at Boston. The following is quoted from Mr. Frost's letter of acknowledgment: "The five cases of grapes arrived in good condition this morning, and will be forwarded to Boston this evening. I have catalogued all fully, and Hon. Fred Wellhouse who is in charge of this exhibit at Boston will take particular pains to give the College full and proper credit for its fine collection. I am greatly

obliged to you for your interest and pains in this direction." These grapes were kept in their present fine condition by being placed in paper bags about the first of August, 3,000 bunches being so enclosed. At about the same date it was found that the vines were suffering so severely from drouth that it seemed doubtful if any fruit would be matured. A line of hose was run up to the vineyard and two good waterings given the entire vines, so that it is doubtless due to the irrigation as well as to bagging the bunches that we were able to make the display of fruit. Among the most attractive bunches were Mills, Lady Washington, Norfolk, Agawam, Highland, and Irving, all tender varieties which were only secured by winter covering.

The post-graduate girls entertained the Regents, the Faculty and wives, Wednesday evening at a "breakfast" prepared and served by the Cooking Class. The tables, four in number, were florally decorated, each differently, and each presided over by two hostesses, as follows: Golden-rod—Miss Phoebe Haines, Miss Jeannetta Zimmerman; Rose—Miss Laura Day, Miss Nora Newell; Nasturtium—Miss Belle Frisbie, Miss Rena Helder; Fern—Miss Clara Castle, Miss Lorena Clemons. The decorations consisted of beautiful center pieces of the flowers named, sitting on doilies suitably embroidered for the occasion. Boutonnieres to match were provided for the guests, pansy blossoms being added at the fern table to supply color to the favors. The food, its preparation, and the service were beyond reproach, only the absence of the toothsome buckwheat cake and its accompanying maple syrup causing any other than favorable comment upon the cuisine.

GRADUATES AND FORMER STUDENTS.

L. C. Criner, '92, teaches at Oakley.

John Davis, '90, is Principal of the Ashland schools.

H. N. Whitford, '90, is Principal of Schools at Wakefield.

S. N. Chaffee, '91, is a student in the State Normal School this year.

W. W. Hutto, '91, will teach the St. George school the coming year.

J. C. Bayless, Second-year in 1893-4, farms the home place near Melvern.

J. D. Riddell, '93, studies medicine in Kansas City, rooming with Ben Skinner.

V. I. Sandt, '94, leaves today for Marshall County, where he will spend the winter teaching.

C. J. Peterson, '93, is teaching an eight-months' school near Paxico, Wabaunsee County.

Ethel Patten, Fourth-year, has been kept from classes the last of the week by an attack of intermittent fever.

John Stingley, '94, is traveling salesman for the Blue Valley Foundry of Manhattan, covering Eastern Kansas and Western Missouri.

M. C. Finley, First-year in 1892-3, and for the past summer employed on the College Farm, takes up studies in the Kansas City Medical College.

J. A. Sankey, student in 1888-9, is a member of the Class of '95, College of Emporia, and managing editor of *College Life*, the organ of that institution.

B. W. Vickery, First-year in 1892-3, spent Friday at the College visiting friends. He is on the way to Kansas City, where he begins studies in dentistry.

J. B. Thoburn, '93, is a Director in the National Boys' League. The League publishes a lively paper, the *Earnest Christian*, from the headquarters in Denver.

Board Meeting.

The regents were in session this week from Tuesday afternoon to Friday noon, including joint meetings of the Board and Faculty on Tuesday evening and Thursday afternoon. All were present.

The usual routine of auditing accounts was completed, and the treasury found in good condition, though the present income is scarcely sufficient to meet the increasing wants of larger classes in advanced studies.

Regents Hoffman and Kelly were appointed a committee to assist Pres. Fairchild in drafting the biennial report to the Governor; and Regents Street, Stratford, and Hoffman were appointed a committee on legislation.

The Committee on Grounds and Buildings, to which all necessary repairs and changes in connection with the transfer of departments to the new building had been entrusted, made the following report, which was adopted:—

To the Board of Regents:—

Your committee on Grounds and Buildings beg leave to report the authorization of the following expenditures in preparation for the opening of the College year:—

1. Repairs, painting, and black-boards in the old Library.
2. Black-board and stools for new drawing-room in attic of main building.
3. Black-board in Seminary, new building.
4. Kalsomining in Chemical Laboratory.
5. Curtains for east, south, and west windows in new building.
6. Excavation for coal-pit, and cover for the same.
7. Paving boiler-room with old brick.
8. Construction of car for moving coal.
9. Completion of grading and construction of walks to and about the new building.
10. Patching of the roof of the barn.
11. Pointing of wall of President's house.
12. Papering and painting of classroom, Mechanic's Hall.
13. Wire mats for outside doors.
14. Kalsomining and whitewashing of drill-room, Armory.

15. The moving of Library, Botanical, and Entomological Departments.

Some of these expenditures are such as should be met from appropriations for general repairs and buildings, but as the State Board of Public Works have found it necessary to use the current repairs appropriation for completing the new Steam Plant and its connections with buildings, we recommend that such expenditures be carried in the Executive and Mechanical Departments until such time as the Legislature may make the necessary appropriation. Ed. Secrest, Chairman.

The Committee on Employees reported the selection of Mr. H. K. Brooks as Foreman of the Iron Shops, in place of Mr. Geo. Webb, who declined the appointment.

The following expenditures were authorized: For tools and supplies for zoology classes, \$24.00; for tools and stock for grafting classes, \$30.00; for music stands, \$7.50; for carpets purchased from the four societies, \$25.00 and \$15.00; for electric lighting in basement rooms, \$90; for fire hose, \$75.00.

Prof. Georgeson was authorized to exchange stock for a new Jersey bull.

The estimates of the Council for Station expenditures during the next quarter were approved and \$300 added for irrigation.

The President and Secretary of the Board were authorized to request from the U. S. Secretary of War additional equipment for the Military Department, and to give the necessary bond. The matter of furnishing additional uniforms was referred to the State Legislature.

Prof. Hood was authorized to provide for the security of the class-room floor over the library.

The following resolution was adopted after discussion in joint session:—

Resolved, That Higher Mathematics and Political Economy be added as electives to the Post-graduate course, and be counted at the option of the student in lieu of other studies now required in the course for Post-graduates, rule first in the catalogue being amended by adding: "If Higher Mathematics or Political Economy be taken as a third study, due credit will be given in estimating proficiency."

The Board adjourned to Tuesday, Feb. 5, 1895, at 3:30 P. M.

Analysis of Attendance.

At this date the total enrollment numbers 452, divided among the classes as follows:—

Classes.	Boys.	Girls.	Total.
Post-graduate	6	10	16
Fourth-year	36	22	58
Third-year	61	34	95
Second-year	54	31	85
First-year	90	60	150
B.....	39	9	48
Total.....	286	166	452

Of these students 434 are under-graduates who come from 60 Kansas Counties and 8 other States, as follows:—

Anderson 2, Atchison 3, Bourbon 4, Brown 6, Chase 2, Cherokee 2, Clay 5, Cloud 1, Coffey 4, Comanche 1, Cowley 1, Dickinson 5, Doniphan 2, Douglass 3, Elk 6, Ellsworth 1, Finney 3, Ford 1, Franklin 3, Geary 15, Greenwood 4, Harper 2, Jackson 7, Jefferson 10, Jewell 3, Johnson 11, Kiowa 1, Logan 1, Leavenworth 7, Lincoln 2, Linn 2, Lyon 3, McPherson 2, Marion 2, Marshall 6, Meade 2, Miami 1, Mitchell 1, Montgomery 1, Morris 1, Nemaha 5, Neosho 1, Osage 13, Osborne 3, Ottawa 1, Phillips 5, Pottawatomie 16, Republic 1, Rice 1, Riley 156, Rooks 2, Russell 12, Saline 3, Shawnee 13, Wabaunsee 12, Washington 4, Wilson 2, Woodson 5, Wyandotte 4; total 417. Nebraska 3, Oklahoma 2, Arkansas 1, Missouri 6, Illinois 2, Texas 1, Kentucky 1; total 17.

Of the total enrollment, 149 are here for the first time. Eighty-four were born in Kansas, one in Germany, and the remainder in other States of the Union.

These new students were admitted to College as follows: By examination, 59; diplomas from county course of study, 40; approved city schools above grammar grade, 35; Kansas teachers' certificates, 11; other colleges, 4.

Eighty-one plan a full course of study here, 57 will take a partial course, and 11 are undecided.

Notes from the College Farm.

Empress Josephine IV. increased her family this week by a fine heifer calf. The College Farm now possesses three of her heifers got by the prize bull Sylvia's Chief. With these and such a noted bull as Princess Pel's Mechthilde's Sir Henry to breed to, the College will have a herd of Holstein Friesians to be proud of.

Experiments in feeding wheat will be in order this winter. Several hundred bushels on hand, with seven hundred and fifty bushels just shipped in at a cost of 47½ cents per bushel, will be used for this purpose. The steer feeding this winter will be with wheat.

The wheat fields are green once more, and are a pleasant contrast to the dry, barren fields of a month ago.

There is considerable interest at present in winter oats. Plots of some of our common varieties have been planted this fall to see if they will live through the winter. Although we have used our hardest varieties, some of which are advertised as winter oats, we have all reason to believe that they will winter kill. Last spring some of these varieties were up before the March freeze and were badly froze out. Every fall there is a great deal of volunteer oats on the wheat ground that gets a good start before frosts, and while they stand the first light freezes, the first severe freeze chills them. The mild winters of the Southern States make winter oats a possibility, but the variety is yet to be found that will live through the average Kansas winter.

The Perine's Plow Works of Topeka Kansas have furnished one of their subsoil plows for trial. It has been used to subsoil for wheat this fall, and will be used to subsoil ground this fall for corn next year.

The present condition of the ground makes it very hard work. The late rains have wet down from seven to eight inches, but below this the ground is very hard and dry. Under these conditions it takes two large teams to pull it, running seven inches below eight-inch plowing. The plow is built so that it could go five or six inches deeper. It pulls considerable lighter than the old-fashioned subsoil plow, but does not loosen the ground between the furrows as well, but probably good enough for all purposes.

The poles have been set and the wires will be put on next week, and then a twelve-horse-power motor at the barn run by the dynamo at the new steam plant, will furnish power in the future, and the old engine will be laid aside. F. C. BURTIS.

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennet; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emelle Pfuetze; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembley, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Secrest; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

September 21st.

The new Ionian room was crowded when the Society was called to order after the lecture. The Society was opened by congregational singing, Miss Helder at the organ. Miss Wilkin led in devotion. The new officers were installed and took their places. Mabel Selby was elected as a member of the Board of Directors, Ada Rice being unable to serve. The program opened with a vocal solo by Rena Helder, "The Sweetest Story Ever Told." This was followed by an impersonation of the little girl at the ball game, by Daisy Day. The "Oracle," with the motto, "Well begun is half done," editor Ethel Patten, was well filled with hints and suggestions, interspersed with bits of fun and other good things. An impersonation by Mabel Selby, "The Man that Wrote After the Ball," sung to the tune of "They're after Me," was very amusing. Miriam Swingle gave a review of "Bitter Sweet," by J. G. Holland. Dora Thompson and Alice Quintard entertained the Society with a guitar duet. They responded to a hearty encore with another selection. Gertie Lyman sang a parody on "Daisy Bell," accompanying herself on the guitar. Sadie Stingley closed the program with a guitar solo. The members told how they earned their dollar for furnishing the new Society Hall, many amusing experiences being related. E. E. N.

September 22nd.

F. E. Uhl led the Websters in devotion. The officers elect, with the exception of Corresponding Secretary, were inaugurated. F. E. Uhl was appointed to fill the vacancy for the evening. E. B. Patten, H. A. French, and C. E. Tennison were elected and initiated as members. The question, "Is the College drifting away from the farmer?" was affirmed by E. H. Webster and G. Wheeler, while W. H. Steuart and J. V. Patten denied the argument. The affirmative said: This College was founded for the purpose of scientific research to benefit the farmer; if it fails in this, its object is averted. The College has improved, but not along the lines in which it is most needed; namely, the dairy and sheep industry. A separate Chair of Political Economy has, unnecessarily, been added. The drawing, which has been added to the new course, is an addition to the mechanical, but does not benefit the agricultural department. The increased number of afternoon industrials is a great detriment to those who are working their way through College. But a small per cent of those graduating have become farmers. Among the points brought forward by the negative were: we are accustomed to think the old better than the new, the College course is thought of in this way by many. As each year advances, economics become more and more important to the farmers, and this branch can be taught better by one who has made the subject a study. Some changes in the course of study are the outgrowth of advancement in the standard required to graduate in the common schools. Drawing indirectly aids the farmer in plans for the buildings, etc. The Society decided in favor of the affirmative. S. A. McDowell delivered an extract from a speech of Henry W. Grady, in which is graphically described the position of a wounded soldier. The first issue of the Reporter, edited by J. B. Dorman, bore the motto, "Beware of the hypnotist lest he make a mule of you." "Methods of Study," "An Essay on Sleep," and "Questions of the Day" were titles of selections. F. E. U.

September 21st.

The Alpha Beta Society and a large number of visitors assembled in the new Society Hall at 2:30, with Vice-President Phipps in the chair. A guitar solo was rendered by Con Buck. Prayer by R. W. Clothier. The officers for the present term were then installed. The Society was next entertained by a quartette, Misses Elva and Inez Palmer, Jennie and Kittie Smith. Geo. Fryhofer delivered an oration on the Benefits of Society. A. E. Ridenour next spoke

in his enthusiastic manner of Society work and prospects. The debate was on the question, "Does the K. S. A. C. afford a more practical education to young men than to young women?" R. W. Clothier on the affirmative argued that the education that enables one to make the most money and thus to be the happiest is the most practical. The scientific course offered by this College is in this way better adapted to men, as comparatively few women are engaged in scientific pursuits. Many branches of the course were shown to be of importance to men while of little interest to women. The record of graduates shows more prominent men than women. Miss Havens on the negative showed that much of the lectures and practice work of the young men is of little use to them, while that which young ladies receive may be put in practice every day at home. Only thirty-four out of the two hundred and thirty-eight male graduates are practical farmers, while forty-three ladies out of one hundred twenty are making use of their training as practical housewives. Even though they may not make as much money as the men, they are as well fitted for living happy lives. The judges decided unanimously in favor of the negative. The "Gleaner," with contributions by honorary members, was presented by Nora Fryhofer, after which a ten minute recess was pleasantly spent by members and visitors in social conversation. Music, violin and organ, R. W. Clothier and Grace Secrest. A symposium on how our College benefits us at home, very instructive and entertaining, was presented as follows: On the Farm, J. M. Westgate; In the Kitchen, Grace Secrest; In the Orchard, R. W. Rader. The business of the session was full of interest, and after a highly appreciated treat in the way of a short talk from Regent Secrest the Society adjourned feeling that the prospects for a successful year's work are very bright. J. B. S. N.

September 22nd.

The Hamiltons were called to order promptly at eight o'clock by Vice President Barnett. F. A. Dawley led in prayer. The officers elected for the term were installed by Marshal Adams. President Barnett responded to the calls for an inaugural with a few well-worded remarks, reminding us of our duty to the Society. The program of the evening was opened by V. Maelzer with a declamation entitled, "Trout Fishing at an Elevation of Three Thousand Feet." Music, guitar duet, by C. W. Lyman and B. W. Conrad. They were heartily encored and responded with another duet. Wm. Anderson, in an essay, described a few comical experiences of the past vacation. The debate on the question, "Resolved, that the adoption of a single tax would be advisable," was argued affirmatively by R. S. Kellogg and F. W. McQuaid, they claiming that since all people should have equal chances to produce wealth, the land which yields this wealth should be more equally distributed. Taxing on land values only would tend to discourage land speculation; it would make the holder either improve or sell, thus giving the land into the hands of actual producers. The government need not own the land, but tax only on land value, irrespective of improvements. The community determines the rent, therefore it ought rightfully to be expended for the benefit of the community. C. F. Doane and R. R. Denny, in refuting the arguments of the affirmative, argued that lands are now taxed too heavily, because of there being so many non-taxable institutions in the country. Government ownership of lands would make permanent improvements on lands insecure. It would be an unjust system, because many paying industries only occupy a small area of ground, yet the tax would be relatively small as compared with the actual amount invested. Society decided in favor of affirmative. After recess C. E. Pincomb delivered an excellent oration entitled, "Vacation Experiences." A splendid edition of the Recorder was presented by B. W. Conrad, motto, "We have had option, but now we receive compulsion." A. L. Peter described in detail the various improvements and changes of the bicycle. Under propositions for membership, several new names were presented for consideration. E. C. J.

To Young Farmers.

When the proper time comes, and you have saved some money, start out for yourself. Don't start too soon. It is easier to make a thousand dollars now as an employee than it will be in the first few years of running things for yourself.

Don't deceive yourself with the idea that you know it all. Nobody has ever got to this alarming degree of perfection yet. It is wisdom to take and keep the attitude of a learner now and in later life. It is well not to have too much faith in others, but be equally anxious to avoid becoming a suspicious man. There is not a scarcity of honest men in the world.

Keep yourself well informed as to what is going on in your town and State especially, and have a general knowledge of the world's affairs. Such information is attainable only through good papers, but for every five dollars expended for these you will get the value of ten dollars to twenty dollars in return.

Avoid enterprises with which you are not acquainted, that are foreign to your business, especially if you are to furnish the money, or labor, which is the same thing, and somebody else the experience.

Keep out of speculation, and stick to business. Short cuts to wealth are few and far between. The temptation may be great, but will usually be found a phantom of sorrow and severity.

Never be jealous of the success of another. Nothing so embitters life as the unattainable or whimpering for "what might have been."—Roland Smith, in *Farm Journal*.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The *INDUSTRIALIST* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

A NEW BLACKBOARD COMPASS.



The Mechanical Department has produced a new blackboard compass which can be sold for a small price. They have been in use for the past two years and have given satisfaction. They are made of seasoned cherry, highly finished and with an improved joint, presenting a large friction and binding surface. Knurled brass clamping nuts on each side of the head. Handy to have. Handy to use. Handy to care for. Get one. 75 cents each, 6 cents extra for postage. Address O. P. HOOD, Supt., Manhattan, Kan.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

VARNEY'S BOOK-STORE.—Popular Headquarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

ESLIE SMITH. College and School Books and Stationery. Note-books, tablets, inks, pens, pencils, drawing instruments, etc. Also a full line of reliable boots, shoes, slippers, and rubbers. Prices are low.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest styles, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

W. M. KNOTSMAN, the Clothier, offers a great variety of clothing and furnishing goods at prices to suit the times. Call without fail before buying.

WATCHES, JEWELRY.

J. Q. A. SHELDEN, "the Jeweler," Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry and Gold Spectacles, also Musical Instruments.

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WITH THE ARMY OF THE POTOMAC. III.

BY H. G. CAVERNAUGH,
(Captain 13th U. S. Infantry).

THE policy of General Hooker was, and I think has ever been, believed to have been the best. The sudden change of plan by Lee demonstrates it beyond a question.

Notwithstanding the change of commanders, with some modification of orders in the destinations of the different corps, on Monday, the 29th of June, about seven o'clock A. M., we continued the march toward Harrisburg. We passed through Mount Pleasant, Liberty, Johnstown, Middleburg, and halted after midnight at Uniontown, having marched about thirty-three miles. It was said at the time to have been the longest distance made by an entire corps (which usually numbers about thirty-three to thirty-five thousand men) during the war. Long before nightfall most of the troops were fagged out and suffering greatly, and it was only with resolute endurance and perseverance they kept moving, having been informed that it was of the utmost importance that we should reach Uniontown that night. It was a noticeable fact that but few fires were lighted and but little coffee made, which was usually the first thing done on halting after a hard day's march. My recollection is that there were not forty men with the colors of the regiment when we filed into a field for the night.

We remained in bivouac the next day and mustered the command, many for the last time. But little ceremony was gone through with, little attention paid to cleanliness, soldierly appearance, or in fact to anything else. We all anticipated hard work and severe fighting, as it was known that our cavalry was in touch with Lee's army.

Early on July 1st we marched through Tarrytown to within a few miles of Gettysburg, where we halted, but for only a few minutes, when we received orders to hurry up, that two corps—among which was General Reynolds, who was or had been in command of the two advance corps on the left of the army—had been engaged beyond the town, had been hard pressed, and sustained heavy losses. We continued until dark, then halted about two miles from the battlefield. Firing had been distinctly heard by us for some time before going into camp. The retreat of our troops through the town to Cemetery Ridge and dark coming on put a stop to the fighting for that day.

At daylight the next morning we moved into line of battle on the ridge south of Gettysburg. Just after forming line our regiment was thrown out as skirmishers about three-quarters of a mile to the front, facing west, where we remained for several hours with orders not to bring on an engagement. The line was attacked several times; we merely held our ground. Several rushes were made by the enemy for a barn held by us, but owing to the order not to bring on an engagement, part of the line was ordered to the rear. That part of the line at the barn held its ground and captured several officers and about sixty of the enemy's men.

The Lieutenant Colonel of my regiment, who was in command of it at the time, was placed in arrest by General Hancock for permitting or ordering the line to retire. He was kept in arrest during the balance of the battle. During the afternoon we were relieved from the advance line, and returned to the original line. The regiment was assigned a position in an orchard behind a stone fence, about six to eight hundred yards from General Meade's headquarters. Our line faced west and nearly parallel to the Emmettsburg pike.

During the morning, and while we were on the skirmish line, heavy fighting was going on at our left flank, which resulted in that portion of the line held by the third Corps, which should have joined the left of ours, being driven back, it having been posted too far to the front, its right flank in the air and its left center forming a right angle, which gave the enemy an opportunity which they immediately took advantage of to enfilade both ways.

The First Division of our Corps, which the Third Corps should have joined, was withdrawn from its position and hurriedly sent to assist in repelling the strong and determined attack at the angle, as was also nearly all the First, the Fifth and the Twelfth Corps. It required them all, and it was only after a fearful struggle the attack was repelled and not without great slaughter; then only by a new line of battle having been formed in the rear, where it should have been originally.

The withdrawal of the Twelfth Corps from the extreme right of our line, which rested on Culp's Hill, left that position to be held by only one brigade, and about this time a spirited attack was made on that part of the line, which, owing to its curved formation, was our rear. We felt in rather a precarious situation, more especially that night when we heard that the rebels under General Early with Johnson's division had made a lodgment there. The point being only a short distance from General Meade's headquarters and within easy reach of our reserve artillery, a night attack there in conjunction with an advance on our front by the enemy would, no doubt, have thrown us into great confusion, and would have probably caused a panic or retreat; for it must be remembered that for some time during the absence of our first division there were no troops on our immediate left, and had there been an attack on that place there would have been no troops to stop it. On the return of the Twelfth Corps to its original position on the right of our line, the next morning, after a stubborn resistance Johnson's division was driven out of the works so easily won by him; and although several unsuccessful attempts were made by him to retake and hold them, no material advantage was gained, and our line was again intact, continuous, and strong from Culp's Hill to Round Top.

The line of battle on Cemetery Ridge followed its formation, which was that of a fish hook, the point being Culp's Hill, and the eye Round Top.

THE MOLE CRICKET.

BY PROF. E. A. POPENOE.

FROM the number of specimens received with the request for name and habits, the mole cricket must be more than usually abundant this fall. This insect is likely to attract attention by its peculiar form and awkward motions, and, with the tendency to associate dangerous character with a strange shape, people are prone to regard the odd insect as poisonous. To answer several inquiries the following account is written:—

The mole cricket, though superficially so different, has a close systematic relationship with the common cricket, belonging to the same family (*Gryllidae*), though to a distinct tribe of that family (*Gryllotalpi*). In this tribe almost all parts of the body undergo a peculiar modification from the type to fit them for progression in their underground habitat. The head is conical, mole-like, adapted for pushing through the soil in which the insects live, and with the prothorax is protected from crushing by a thick, horny integument. The anterior legs, which in the common cricket are fitted for walking, in this form are fitted for digging; for which function they are enlarged, compressed, and the blade-like outer portions armed with stout teeth, the whole member being so constructed as to admit of forcible lateral motion. In using these peculiar mole-like feet, they are drawn close to the sides of the head and are then thrust obliquely backward or sidewise, their digging action being assisted by the forward push of the pointed head and prothorax, and thus the insect makes its way through the soft earth, its motions greatly resembling those of the mole under similar circumstances. The wings of the adult mole cricket are not greatly different from those of the true crickets, the lower in one of our species being ample for purposes of flight, and the upper being suited by their heavier texture to serve as protecting organs for the more delicate under pair. In the male mole cricket, as in the common cricket, the upper wings serve a special purpose as musical organs, the note being produced by the friction of the rasp-like heavy veins when the wings are drawn one over the other, and intensified greatly by the tense membrane between the veins. Most people are familiar with the call note so produced, a loud, continuous repetition like the words "kirk, kirk, kirk," heard more commonly along damp ground, as near the border of streams, yet few recognize its origin. Though difficult sometimes to locate, the singer may be surprised at the mouth of the burrow and even observed at his performance, though as he is specially sensitive to the jarring of the soil by a foot tread, an approach may silence the song by frightening the insect into his retreat.

Being amply provided with wings, it is to be expected that the insect should use them, and in its nocturnal flight it is occasionally attracted by a bright light, and brought to the notice of the curious. During the day the mole crickets are mostly concealed, and, except on cloudy days, are quiet. For food they

eat the roots of various plants, though not to an injurious extent in this country, so far as reported. In the ability of the insect to bite or sting, or to inflict a poisonous wound of any character, there is not the slightest reason for belief.

AN IRRIGATION EXPERIMENT.

BY PROF. HOWARD M. JONES.

ENTERPRISE, Kansas, is well named. Its citizens are enterprising. Mr. C. B. Hoffman, a Regent of this College, has in hand a most commendable project, namely, the irrigation of a hundred and twenty acre tract at Enterprise. It is bottom land, situated on the bank of the Smoky Hill River. If present prospects of success are realized, the tract will ultimately be increased to two hundred acres. The best engineering will be employed. Fully as much attention will be paid to draining as to flooding. Part of the ditching will be used for both purposes. In East Central Kansas, where a whole season may be wet, or at least where continued and heavy rains may immediately succeed an irrigation, crops may be badly damaged, or destroyed altogether, by a super-abundance of moisture. By a complete system of draining the water supply at all times will be under complete control, thus insuring success.

The water supply for this farm is ample. It will be pumped by water-power. A dam and wheel, already employed by Mr. Hoffman in his milling business, will be utilized for this purpose. The pump will have a capacity of 150,000 gallons per hour. Two-thirds of such a pumping capacity can put three inches of water on one hundred and twenty acres every five days.

It has been repeatedly noticed that crops do best where there is an ample supply of moisture from beneath. Even with a plentiful supply from above, if the subsoil be baked, the distribution is not the best. It is proposed to operate the plant during the winter, thus saturating the subsoil. Thus the crops will have on tap, as it were, a subterranean reservoir. If there be an excess of water at planting time, the drainage already mentioned will provide for it. With such a stock of moisture in store in the spring, it may be that seasons will frequently occur in which very little irrigation, or none, will be necessary during the growing time.

The plan is to allot in small parcels of five or ten acres, twenty being the maximum. These allotments will be farmed out to small cultivators, who unaided could not avail themselves of irrigation privileges through lack of capital. In addition to the water, Mr. Hoffman will supply teams also, whenever the tenants need them, effecting a happy combination of capital and labor.

All Kansans, but especially those of the east and east-central parts of the State, will watch this experimental stage. Here is a case where private enterprise is undertaking alone what the Experiment Station is carrying on at another point. Aside from its experimental value in irrigation, the undertaking will furnish a good object lesson in high culture. Kansas has, in common with other States where land is plenty and labor scarce, gone to the extreme of extensive agriculture; often extensive failure has followed. What is needed now is intensive culture. If irrigation leads, even by indirection, to higher culture, it will be a great blessing to the "land-poor" farmer.

SUCCESS THE REWARD OF LABOR.

BY W. L. HALL, '96.

WHEN a man's name is brought into public attention by some note-worthy action, it is his chief desire that it may not be immediately forgotten, but that it may live in the hearts of men until it becomes indelible. He would be like the flower that falls to earth, not to wither and be scattered by the wind, but to find its place within the hardening store to leave its image there to be revealed to the eye of future ages. In his labors he seeks the remembrance, perhaps the praise, of those he will never see. If a man is ambitious at all, such is his ambition.

Yet of all the names that are lifted before the public eye how few there are who retain the prestige of notice once given them, and how many there are who, renowned today, tomorrow start on their dwindling way to oblivion. They have been weighed in the balance and found wanting. Their solution of the problems they assayed, the schemes they sought to perfect, were taken up, tried, for a time and abandoned in favor of the designs of others; and they are left to go on their way lamenting, remembering their minor successes and sorrowing; for "A sorrow's crown of sorrow is remembering happier things." Thus one popular song is replaced by another. Who sang

"McGinty" after "Annie Rooney" had been written? How quickly "Little Annie Rooney" sped away when "Ta, ra, ra, Boom de Ay" came marching up the hill of notoriety. It is the same with certain books, especially novels. The book that excites and thrills and charms all society one season may gather dust on its covers the next.

A man's character is read in his works, and the degree of his success is marked by the favor which they meet in the sight of his critics. These compose the great, intelligent body of the public. Whatever original man does, he must appear before the public in a thorough, rigid test to prove that his accomplishment is something to be desired, something that appeals in its own worthiness to the mind of man or awakens in his heart a sentiment that pleads irresistibly in its favor. What is there in "Boom de Ay" that could render it enduring? It is a rhythmic jingle of syllables that is attractive because it is playful, and awakens a corresponding mood in man; but his playful moods are of short duration. How different from this is "Home, Sweet Home," that old song that eighty years ago struck one of the sweetest chords in the harp of life. Once heard, its echo never dies from the human heart. Who is there who does not know it, and who does not know its author? It lives because it is worthy of life. It reminds us of associations that are never rivalled in the world. The difference between these two songs is the difference between the unworthy and the worthy. One was a failure because its purpose was fickle; the other a success because its purpose was noble.

I believe, then, there is a rule by which we may know what is and what is not to be successful and enduring. A man may know today whether or not the enterprise he engages in will be remembered beyond his time. Wherever you look you will find true success to be the result, aye, the reward of persistent labor in a worthy cause. True success is studied success. The students' world is the only world of real progress. The truth of this statement renders mental labor more encouraging, more attractive. There are men who rise on natural abilities to great renown, and others seem to shrink before their superior power. There are meteors that sweep the sky and pale the stars to darkness, but they are very few and very far between.

The path of true success trends upward,—

"The heights by great men reached and kept
Are not attained by sudden flight,
But they, while their companions slept,
Were toiling upward in the night."

If this be true, here is inspiration for everyone who is willing to seek with his whole heart. The weakest at the outset need not despair, for begging boys have come in time to find their places in the van of progressive intellect. What a triumph is this! Yet it is in strict accord with the eternal law of progress, and no man can question its justice. To live and be honored in the hearts of our fellow men, we must do them good service; to do them good service, we must be constant and assiduous in every office of life.

Road Notes.

We need a change in our present system of making roads and the kind of house roof we use. In road making, dirt will not be used much longer—it is always muddy. The effort has been to throw up dirt, and ditch to keep the water off the roads. Except making culvert and scraping down hills, we feel certain that the road everywhere gets no real benefit from public road work.

Our efforts to make a road by throwing up rich dirt on the road bed is certainly no benefit; rich dirt will melt, and is soluble, and with rains will make mud, high or low. We should in the first place in making a road, scrape down the hills and fill the hollows with the dirt. This should be done by little year by year as there is work to do it with.

Poor hill dirt put on the rich black dirt in the hollows is wise. We should pick our road material, and not use everything in the dirt catalogue to make a road with. Use the dirt that makes little or no mud when it rains. Gravel, sand, or broken rocks are the only materials of any benefit to a road. As to using them now, we think it wise to begin at once on the muddy places to use these materials. Put them on the road and then make the drains on each side to carry off the water afterwards.—*Golden Rod*.

A ready market always exists for the best. When the farmer produces a better article than the market contains he will not only secure a good price therefor, but the market will seek him the next season. The amount of fruit and vegetables, butter, cheese, and poor animals shipped to the large cities is enormous, and prices fall because such articles cannot be sold. Aim to get good prices by selling nothing but what is in demand and of the highest quality.—*Colman's Rural World*.

About one-third of a crop depends upon the soil, one-third upon the seed, one-third upon care and cultivation, but each one must be at its best to get full advantage of the other. If either falls short more than its own proportion of the crop is likely to fall short.—*Colman's Rural World*.

FARM NOTES FROM VARIOUS SOURCES.

It has been amply proved that the nutritive value of properly cured hay is as great as that of the grass from which it was made.—*American Farmer*.

Intensive and not extensive farming will be the watchword in the future, and as larger crops are grown on fewer acres, there will be larger net profit.—*Country Gentleman*.

The safest bank in which a farmer can invest his money is the land. Not necessarily more land, but in making richer and deeper and better in every way that which he has now.—*American Agriculturist*.

Horse breeding has not "gone to the dogs" in this country, nor will it ever go there. What is wanted is a little more brains in the business—a little clearer knowledge of what is wanted, and how to produce it.—*Rural Life*.

It does not take long to stock up with hogs or to get rid of them, and it will pay to try a lot of shoats to clean out the bushes from wet places and wild plants from new ground. Make a good fence and turn them in, and give good shelter and a little grain, and they will do the rest.—*Mirror and Farmer*.

If mixed farming is carried on the herd should not be so large as to require too large a percentage of land for pasture, but just large enough to fit in with the rotation of crops. This pre-supposes, of course, that there is no permanent pasture that can be relied on to furnish enough feed for the cows all summer unless unusual seasonal conditions should prevail.—*National Stockman*.

Wheat is now a rival of corn as food for stock? Wheat, however, is more serviceable when cracked or ground. For hogs it should be cracked and soaked. It is estimated that a bushel of wheat will produce about twelve pounds of pork. For young stock wheat should be preferred, but corn still holds its place as the better for fattening. A mixture of equal parts of wheat and corn ground together is superior as a general food for all kinds of stock than either of those articles alone.

Examinations of children in the Boston schools and in country schools by President G. Stanley Hall of Clark University showed the latter to have a higher average intelligence. For 86 questions the knowledge of 36 country children ranked higher than that of the city children, and in many items very greatly. President Hall says: "As methods of teaching grow natural we realize that city life is unnatural and that those who grow up without knowing the country are defrauded of that without which childhood can never be complete and moral."

On every farm there is a great advantage in having house and farm buildings as nearly as possible in the center of the farm. There is much loss of valuable time when a distance of anything more than a quarter of a mile has to be traversed morning, noon, and night in going to and from work. The German farmers live in villages, and some of them work land that is a mile or more from their homes. It puts them at very serious disadvantage. We have known farmers who have bought farms lying some distance apart and tried to work them both, but they quickly had to give up one or the other, as the waste of time was too great.

It costs money to neglect repairing the fences while the ground is soft. It costs money to have a poor fence around pastures, for the cattle to break through. It costs money to allow the manure to lie under the eaves, and fertilize the roadside or nearest stream. It costs money, in the extra feed required, to keep cattle and horses together loose in the same yard. It costs money to let the cows become poor during the winter, and take all summer to recover condition. It costs money to let the manure lay in piles all winter, when labor is cheap and work scarce, and draw it out in spring, when labor is high and work abundant.—*American Agriculturist*.

The wife cleans house, why should not we clean the farm? Draw the old stumps and logs into large piles and burn them. Cut out all thorn trees and bushes. Pick up all stones in the pasture as well as in the meadow. Do not stop when you get to the wood lot. Go right through until you run against your neighbor's fence. In the spring go over the fields with some grass seed and sow a little wherever anything was removed, or on any bare spot. This will pay in dollars and cents as well as anything you can do, making the farm look more attractive to people passing by, who will say, "There is a prosperous farmer."—*Stockman and Farmer*.

There are many things which are pretty and desirable which the majority of farmers cannot obtain. There are many other things which are properly described by the same terms which all might secure with but little trouble or expense, but which too many are content to do without. One of these is a neat door yard. Such a yard costs but a trifle, yet it adds greatly to the appearance of the farm and the beauty of the home. The front yard should be kept free from sticks, stone, waste paper, and rubbish of every kind. Whatever is stored in the back yard should be neatly arranged. As the grass in the front yard should be cut every few days, either with a lawn mower or scythe, there will be the loss of a little hay, but there is other land enough upon which this crop may be grown. Any farmer can spare a little plot of ground upon which his children can romp and which can be kept for their use and for improving the appearance of the home. The farm ought to be pretty as well as productive. While most of the land should be made to yield a financial return, the door-yard should be made a beautiful spot rather than a field upon which to grow farm crops.—*Agricultural Epitomist*.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

New students appear daily, though the Chapel looks full already.

A temporary coal shed is being erected on the west side of the new power house.

The Cadet Band discoursed good music as a prelude to the lecture yesterday.

Grace Secrest, Third-year, attended the Holmen-Christensen wedding at Mariadahl on Thursday.

The College Cadet Corps, 190 strong, make the drill ground lively every afternoon about four o'clock.

Two football teams are being organized, and about Thanksgiving Day there will be a test for local supremacy.

The incandescent lamps furnished light for the Webster and Hamilton societies for the first time Saturday night.

Pres. Fairchild is invited to share in the dedicatory exercises of the Spooner Library at the University next Wednesday.

Prof. Walters has read proof this week upon the final sheets of the first volume of his text-book in Industrial Drawing.

Mrs. Graham, President of the Christian Womens' Board of Missions, attends the annual convention of that body at Ottawa this week.

Steam heat from the new plant was turned on in the buildings Friday morning with no apparent defect in plan or workmanship.

Prof. Mason has gone to Garden City on business connected with the irrigation experiments, and will take in the Finney County fair.

Mr. Hopkins, student in 1876, called at the College on Thursday. He is taking photographs at the gallery of Mr. Hoop in Manhattan.

Company A and company C of the College Cadets played a game of base ball Saturday afternoon, the latter winning by a score of 23 to 14.

The Calisthenics Class of twenty-five young ladies is under charge of Bertha Kimball, '90, and meets for drill in the roomy basement of Science Hall.

A neat illustrated circular, or condensed catalogue, will soon be distributed for general information as to the College and its faculties for making education free.

More students entered the State Agricultural College this year than last. Notwithstanding the failure of corn this year, that great institution continues to grow.—*Junction City Union.*

The new wire mats at the various entrances to buildings are a means of cleanliness in the halls highly appreciated. They will pay for themselves shortly in the saving of wear upon the matting.

Each county superintendent will do well to see that his county course, if he has one, is accepted as preparing for entrance to this College. If they have no course, this year may be a good one to inaugurate such an improvement. Fifty-nine counties are now in our accepted list. Where are the other forty-six?

Janitor McCreary returned on Thursday from the hospital in Chicago where he endured a second operation for neuralgia of the face from which he comes out as good as new, ready to take up the duties so well performed since 1887. Hundreds of old students will be glad to know of the success of the operation.

The statement going the rounds of the press that the Department of Physics in this College is abolished to make room for a new chair of political economy does injustice to the Board of Regents, the College, and Prof. Nichols, whose name is still on the Faculty roll. Prof. Nichols asked and received a year's leave of absence for study, and the Board, instead of securing a temporary substitute in physics, asked the Faculty to so adjust duties as to give temporary room for a Professor of Political Economy, who teaches in such other studies as may be convenient. The classes in physics are to be cared for by competent teachers.

The second lecture in Prof. Will's series upon economic topics was given yesterday. Recapitulating in routine the introductory lecture of two weeks ago, the lecturer gave three prominent views upon the great struggle for place so prominent in society: first, that the struggle is the true means of advancement by the survival of the fittest; second, that the struggle for others should take the place of the struggle for self; third, that, though the struggle is inevitable, we need to be sure that the struggle shall be a fair one, in order that only the best may survive. In any view the conditions of the struggle are

of interest. As a foundation for discussion, the object for which the struggle is carried on was named as wealth, which is variously defined from various points of view, according as the satisfaction thought of varies. The speaker preferred the definition which includes all satisfaction tending to welfare.

GRADUATES AND FORMER STUDENTS.

Jennie Smith, '94, teaches the school near Clarkson.

C. R. Hutchings, '94, is spending a few weeks' vacation at his home near Pomona.

Lorena M. Helder, '94, assists Prof. Brown in the management of his large music classes.

J. C. Christensen, '94, teaching at Maple Hill, is thought to be laying plans for the capture of a State certificate.

A. R. Bradshaw, student in 1893-4, is teaching near St. Marys to earn money for the completion of his course here.

W. J. Yeoman, '94, is pursuing professional studies at the State Normal. He has been teaching since his graduation.

E. J. Abell, Fourth-year in 1892-3, sends a copy of a neat and original deportment card of the Scottsville Schools, of which he is Principal.

Margaretha E. C. Horn, '93, writes from Ann Arbor, Mich., of a home in the family of one of the professors and plans for an extensive course of study in the University.

V. I. Sandt, '94, and Alice Hood, Second-year in 1892-3, were married Saturday, September 29th. They will live in Marshall County, where Mr. Sandt teaches a school.

Lorena E. Clemons, '94, takes the place in the Secretary's office just vacated by Margaretha Horn, '94, who has gone to the University of Michigan, for special study.

Frank Yeoman, Third-year in 1893-4, writes from La Crosse that he very much regrets being unable to return to College this year. He is teaching school where he taught a few years ago.

A. E. Campbell, Second-year in 1890-1, writes from Horton, where he is employed in the Rock Island Railway offices, asking that information concerning the institution be sent to a friend who plans to attend College.

J. F. Odle, '94, in the employ of Levi P. Morton, under H. M. Cottrell, Superintendent, has been sent to Oakland, N. J., to take charge of a herd of cattle recently imported by Mr. Morton to restock his Ellerslie farm.

Clara A. Christensen, Second-year in 1887-8, was married, October 4th, to Mr. John Holmen, at the residence of the bride's parents in Mariadahl. Mr. and Mrs. Holman will be at home in Osage City after November 3rd.

E. A. Allen, '87, teacher in the Chilocco Industrial School (Indian) at Arkansas City, writes of laboring with the Indian youth with results not wholly encouraging, but thinks Government is following the only plan that will make Uncle Sam's wards self-supporting.

The Weather for September.

Temperature.—The mean temperature for September, 1894, was 69.2°, which is 1.67° above normal. Since 1858, when our record began, there have been thirteen warmer and twenty-three cooler Septembers, the warmest being in 1865, when the mean temperature was 74.21°, and the coolest in 1868, when it was 60.28°. The maximum temperature for the month was 104°, on the 7th; the minimum, 35°, on the 30th,—a monthly range of 69°. The greatest daily range of the thermometer was 45°, on the 11th; the least, 3°, on the 10th. The warmest day was the 6th, with a mean of 82°; the coldest, the 30th, with a mean of 53°. The mean temperature at 7 A. M. was 59.8°; at 2 P. M., 83.13°; at 9 P. M., 66.93°. The mean of the maximum thermometer was 87.87°; of the minimum, 56.46°, the mean of these two being 72.17°. Just one half the days of the month the maximum thermometer registered 90° or higher.

Barometer.—The mean pressure for the month was 28.799 inches, which is slightly below normal. The maximum was 29.236 inches, at 7 A. M. on the 24th; the minimum, 28.439 inches, at 2 P. M. on the 7th,—a monthly range of .797 inches. The mean at 7 A. M. was 28.827 inches; at 2 P. M., 28.774 inches; at 9 P. M. 28.796 inches.

Cloudiness.—The per cent of cloudiness for the month was 34, which is two per cent below normal. There was one day, the 9th, that was entirely cloudy; three days were five-sixths cloudy; five, two-thirds cloudy; three, one-half cloudy; four, one-third cloudy; three, one-sixth cloudy; eleven, clear.

Rainfall.—The total rainfall was 3.34 inches, which is .29 inch above normal. Rain fell on seven days, and was well distributed throughout the month. The total rainfall for the nine months of 1894 now completed is 18.72 inches, which is 6.86 inches below the normal of these months for 37 years. The table fol-

lowing shows the monthly rainfall for 1894, the normal, and departure from normal:—

RAINFALL FOR 1894.

Month.	Normal.	1894.	Departure from Normal.
January.....	0.84	0.71	-0.13
February.....	1.07	1.10	0.03
March.....	1.30	0.67	-0.63
April.....	2.71	1.33	-1.38
May.....	4.06	3.78	-0.28
June.....	4.45	5.05	0.60
July.....	4.66	2.27	-2.39
August.....	3.44	0.47	-2.97
September.....	3.05	3.34	0.29
Totals.....	25.58	18.72	-6.86

The unfavorable conditions prevailing at the close of August have been partially overcome by the well-distributed rainfall of September. The question of stock water has become a dead issue for the present; creeks are running again, and wells that had failed, or were about to, have water once more. Pastures have sprung into new life, grass being as green as in the middle of May. Stock is doing well on them. The apple crop has improved much, and winter apples of fine appearance are now being marketed in considerable quantities. Wheat is mostly in, much of it up and growing nicely.

Wind.—The wind was from the south twenty five times; southeast, twenty times; southwest, ten times; east, ten times; north, seven times; northwest, five times; northeast, four times; west, one time; and calm eight times. The total run of wind for the month was 6642 miles. This gives a mean daily velocity of 221.4 miles, and a mean hourly velocity of 9.2 miles. The highest daily velocity was 393 miles, on the 28th; the lowest, 66 miles, on the 15th. The highest hourly velocity was 27 miles, between 9 and 10 A. M. on the 29th.

The following table gives a comparison with the preceding Septembers:—

September.	Number of rains.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858....	1	1.10	45	SW	69.62	98	50	28.81	29.11	28.47
1859....	6	1.82	45	S	65.86	96	36	28.88	29.13	28.64
1860....	2	1.35	20	SW	72.44	100	43	28.78	29.10	28.48
1861....	12	8.06	45	S	68.23	95	41	28.76	29.03	28.53
1862....	6	4.15	19	S	71.70	97	51	28.78	29.14	28.28
1863....	4	7.73	45	S	72.56	95	39	28.74	29.02	28.40
1864....	6	2.30	45	SW	73.58	104	42	28.68	28.95	28.36
1865....	4	1.23	45	S	74.21	90	49	28.61	28.80	28.19
1866....	10	6.23	44	S	61.37	90	40	28.70	28.96	28.40
1867....	6	3.50	27	S	69.12	92	49	28.72	28.98	28.50
1868....	7	5.72	54	S	60.28	87	34	28.86	29.25	28.50
1869....	5	1.83	40	SW	61.26	83	41	28.81	29.11	28.47
1870....	9	4.57	62	SE	67.29	92	52	28.78	29.10	28.48
1871....	4	1.92	38	NE	66.43	91	39	28.76	29.03	28.53
1872....	9	5.70	31	S	65.01	96	37	28.78	29.14	28.28
1873....	4	1.85	45	SW	65.97	98	38	28.74	29.02	28.40
1874....	7	4.53	52	SW	65.16	98	39	28.74	29.00	28.42
1875....	3	2.85	46	SW	65.88	97	36	28.88	29.13	28.64
1876....	6	3.11	36	SW-NW	64.99	93	25	28.81	29.10	28.48
1877....	2	1.52	36	SW	70.50	93	38	28.76	29.03	28.53
1878....	5	3.22	30	S&SW	67.13	93	37	28.78	29.14	28.28
1879....	4	4.30	33	S	66.43	92	44	28.74	29.02	28.40
1880....	7	2.52	33	SW	64.96	84	40	28.68	28.95	28.36
1881....	4	4.92	32	SW	72.12	101	36	28.54	28.80	28.19
1882....	2	1.20	27	SW	70.30	102	46	28.70	28.96	28.40
1883....	2	1.26	37	E	63.10	94	43	28.72	28.98	28.50
1884....	5	3.33	60	SW	72.65	93	48	28.51	28.82	28.17
1885....	8	4.38	44	NE	63.06	95	42	28.61	28.93	28.23
1886....	5	1.14	29	SW	71.71	101	39	28.93	29.24	28.48
1887....	8	6.88	31	S	66.95	94	38	29.06	29.35	28.75
1888....	3	2.86	17	.....	64.69	96	34	29.04	29.26	28.70
1889....	4	1.92	36	S	63.19	101	30	29.06	29.39	28.78
1890....	7	3.24	43	E	63.04	95	30	28.95	29.32	28.55
1891....	3	1.46	16	SW	69.94	97	31	29.02	29.19	28.76
1892....	3	36	8	S	69.67	97	37	28.89	29.12	28.58
1893....	6	2.45	23	SW	69.00	109	34	28.80	29.19	28.27
1894....	7	3.34	34	S	69.20	104	35	28.80	29.24	28.44
Means	5	3.05	36	SW	67.53	95	40	28.81	29.11	28.47

WIND RECORD.

September.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889.....	5206	173.5	316	73	7.2	27
1890.....	5907	196.9	526	67	8.2	32
1891.....	7791	259.7	434	99	10.8	31
1892.....	7022	234.4	560	56	9.8	32
1893.....	7243	241.4	629	101	10.1	41
1894.....	6642	221.4	393	66	9.2	27
Means.....	6635	221.2	476	77	9.2	32

C. M. BREESE, Observer.

COLLEGE ORGANIZATIONS.

September 29th.

The Hamilton Society was called to order by President Barnett. Roll call. Prayer, W. L. Hall. Owing to the absence from College of our Marshal, F. W. McQuaid, the Society elected G. W. Farley to fill the vacancy. G. W. Ingman, Wm. Hargrave, Edward Langhart, S. Adams, and W. G. Cooper were elected members of the Society. The program was opened with a spicy declamation by G. W. Finley. G. C. Hall, in an essay, related how a joke was once turned upon the joker. Select reading, A. W. Staver. Next was an oration by W. L. Hall. It was well delivered, and its author deserves much credit. The instrumental music by Messrs. Fox and Brown was heartily appreciated by the Society. In a very instructive discussion, G. W. Farley told of the various steps in cable bridge building. The debate having been postponed, was now taken up. The question, "Resolved, that the A. R. U. was justified in striking in sympathy with the Pullman employees, was presented affirmatively by O. A. Otten and W. Anderson. Among other things they said that if the Pullman employees were justified in striking, the A. R. U. were justified

in striking out of sympathy for them. It was asserted all through the strike that the A. R. U. was causing endless destruction of property. This damage was almost wholly done by tramps and bums, and not by the striking A. R. U. men. The Railroad Union sent a committee to confer with Pullman in the interests of their fellow workmen, but Pullman absolutely refused to arbitrate, so the A. R. U. refused to handle the Pullman cars. R. J. Barnett and F. V. Dial, in rebutting the arguments set forth by the affirmative, said that through this sympathetic strike of the A. R. U. the country at large was greatly injured. Nearly every citizen of the United States felt, more or less, the effects of this strike; as mails, express, and transportation were delayed and stopped. The A. R. U. could not in any way bring Pullman to terms by refusing to haul his cars, as they were leased by the various railroads. The laws of liberty were violated when the A. R. U. compelled thousands of men to stop work, just to avenge the wrongs of a few. Society decided in favor of the negative. After recess, the time was spent in the discussion and transaction of business regarding the improving of our new Society room. Adjournment. E. C. J.

September 29th.

The long-delayed incandescents shone upon a well-filled society room as the Websters were called to order. E. H. Webster led in devotion. The Corresponding Secretary was then inaugurated. Debate on the question, "Resolved, that suicide should be prohibited by law," was affirmed by C. B. Selby and R. W. Bishoff, who said that where the laws were strict on this subject, statistics proved suicide to be much less frequent. If laws were formed that would cast dishonor on one's name, and disinherit his posterity, it would certainly prevent the crime. T. W. Morse and C. Dolby, in denying the argument, called attention to the fact that it was useless to put a penalty on suicide, as one determined to take his life would have little thought for the future. Suicide is the result of a combination of causes growing out of the ills of civilization. Legislation in special lines would have no effect. Taking the question in a broader sense, they also argued that suicide in many cases was not wrong, and brought forward some good illustrations. Decision in favor of negative. E. G. Gibson entertained the Society with some original poetry containing patriotic Society sentiments. Under discussion, C. D. McCauley graphically described the "Habits of the Beaver." Business occupied the Society until the hour of adjournment. A. G. B.

September 28th.

Louise Spohr led the Ionian Society in devotion. Grace and Tacie Stokes, Mary Pritner, Minnie Walmer, and Mary Kimball were elected to membership, and with the exception of Miss Pritner were initiated. The program opened with a solo, "Sweet Marie," by Minnie Spohr, Gertie Rhodes at the piano. The next was a declamation by Ida Walters, "Asleep at the Switch." Laura McKeen read an extract from Frank R. Stockton's "The Lady or the Tiger." This was followed by a piano solo from Gertie Rhodes, who, in response to an encore, gave another selection. Emma Stump, a former student, entertained the Society with an interesting recitation, which was so well appreciated that she consented to give us another. The discussion for and against the Fourth-year drawing was argued on the affirmative by Susan Johnson, who thought that it would be a great help to the many who would teach after leaving College, and also to some of those in other occupations; then it would be a good thing to fill the "vacant hour" that might sometimes be missed otherwise. Flora Day, on the negative, thought that the course here was full enough any way, and it was hardly just to give the class an extra study now since they had planned to take it as it was. The discussion was then opened to the Society. The names proposed for membership were Winifred Houghton, Gertrude Rhodes, and Phoebe Smith. E. E. N.

September 28th.

The Alpha Beta program was opened by a beautiful cornet solo by Mr. Rambo. Devotion, Elva Palmer. The rights of membership were conferred upon Misses Josephine Finley and Josephine and Adelaide Wilder. An oration by O. H. Halstead gave some ideas on the North American Indians. Chas. Sandstrom's declamation, describing a vivid scene in railroad life, was next listened to. The debate was on a question important to us as students of this College: "Resolved, that the K. S. A. C. should be advertised in at least one newspaper of each county in the State." Some of the leading points of the affirmative; presented by A. C. Peck and Mary Painter, were: Few of the farmers know of the College; they must be reached. This can best be done through the county papers which all take and read. This method would reach those who have no contact with people acquainted with the College and stimulate them to further inquiry. The leading argument of the negative speakers, Inez Palmer and W. N. Coffey, was: The previous great growth of the College has been through self-advertisement by means of the students who have attended here. The College being now well known, needs no advertising. The newspaper advertisements would have to be small, and so would be insufficient and scarcely noticed. The judges, Hattie Paddleford, Mr. Uhl, and Josephine Finley, decided two to one in favor of the affirmative. Quartette, Messrs. Spaulding, Coffey, Clothier, and Thompson. The singing was highly appreciated by the Society. The Gleaner, presented by M. A. Limbocker, was full of thoughtful articles interspersed with pieces of a more humorous character. The time after recess was spent in the transaction of Society business, which, as usual, called forth some good extemporaneous speaking. After an organ solo by Mary Paddleford, the Society adjourned. J. B. S. N.

The Silver Lining to the Cloud.

It is an ill wind indeed that does not bring good fortune to somebody. With all its disasters the year 1894 has brought good profits to many farmers. There are great areas in Northern Illinois and Indiana, for instance, that have produced an enormous crop of fine oats. Cases are numerous where as high as \$15 to \$20 per acre has been cleared from good oats, and in these localities farm lands are in demand. In some of these same districts a good hay crop was harvested, which is also worth a handsome price. Dairying and pig-feeding have likewise yielded good returns, and to make matters still better all good cattle are again in demand. Further south there are counties which will gather a good corn crop. The grain is worth from fifty to sixty cents per bushel either to sell or feed. Fall pastures are good throughout the entire country so far as reported. Cheap wheat soaked and fed to hogs commands a remunerative price as pork.

West of the Mississippi little, if any, money has been made even by the best farmers this season. Drouth has robbed them of their wonted harvests, and along the "frontier" destitution and want admonish that there is a limit beyond which it is not safe to undertake to till the soil in the absence of irrigation. The magnet of free homesteads, the allurements of cheap (?) railroad lands, and the wiles of the town-lot "boomer" have drawn to the far West all classes of people—some practical farmers and many broken-down "butchers and bakers and candlestick-makers," who would probably have made a failure of farming under the most favorable conditions. Without money to make improvements, they were forced into debt. They raised big crops only when the season was favorable; and when it is favorable on the high treeless plains it is usually a year of great abundance in the older and better cultivated farming regions, so that by the time the long railway haul is paid and the stuff sold on a flushed market there is little left for the struggling plainsman even out of bounteous crops. When a summer like that of '94 strikes these hard-working and debt-ridden settlers they lose their all. Excepting in the case of these wretched "experimenters" on the borders of the arid regions of the newer West, the *Gazette* can see no occasion for despairing of the future of American farmers. They will have to keep a better class of farm animals; they must make their land produce more per acre; they must provide more succulent food for their live stock during dog days, when the blue grass is asleep; they must take better care of the corn-fodder, and provide proper shelter for the farm stock against our frigid winters; diversify their farming operations as much as possible; stop growing so much wheat; cease putting their eggs all into one basket; study their business incessantly; stop the leaks, and keep posted.

We have a soil and a market which should make our farmers from the Hudson to the Western ranges independently rich whenever we can get rid of the "scrub" animals and the "scrub" farmers who now despoil much of this vast agricultural empire.—*Breeder's Gazette*.

Read the Farm Papers.

Those who take up farming as a vocation must of necessity assume business relations with the outside world. They are compelled to meet and solve business problems that require judgment. They must keep posted in regard to outside matters which have a direct bearing upon their own enterprises. They must know, in short, what they are doing or pay dearly for their lack of knowledge, for in their business, like in many others, ignorance is no excuse for mistakes. These facts existing, how can this knowledge be gained in any other way than by reading? Papers devoted to their special interests are considered indispensable to our best business men. The professions and trades have their organs. The successful doctors keep posted as to the latest diseases and their treatment through their journals. Bankers learn the commercial conditions of the country through the papers devoted to the commerce of the Nation, and the same rule holds good in every calling.

With all the agricultural papers in the field it is strange to think how many farmers there are who do not take a paper devoted to their own interests. Even in the most intelligent sections of the country it is safe to say that not one out of every ten farmers takes and reads a farm paper. Taking the country over, not more than one out of twenty or thirty perhaps is a regular and close reader of papers which are devoted to his own interests. These facts are not called up with a view of chiding those who subscribe for and read agricultural papers, but to point out one reason why so many of the rural population are considered as away behind the times and are often easy prey for those who are posted and aim to take advantage of their ignorance. How to remedy the matter is a question not easily answered.—*National Farmer and Stockman*.

All farming is not profitable, even giving credit to every item possible, but in the majority of cases the management is the fault, not the farm, and whether a change can be made or not rests largely with the owner; but in determining the profits do not leave out the cost of living, which with the average farmer comes largely from his soil in one shape or another, nor the improvements.—*Farmer's Home*.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The *INDUSTRIALIST* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

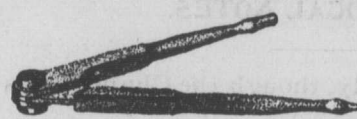
Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

A NEW BLACKBOARD COMPASS.



The Mechanical Department has produced a new blackboard compass which can be sold for a small price. They have been in use for the past two years and have given satisfaction. They are made of seasoned cherry, highly finished and with an improved joint, presenting a large friction and binding surface. Knurled brass clamping nuts on each side of the head. Handy to have. Handy to use. Handy to care for. Get one. 75 cents each, 6 cents extra for postage. Address O. P. HOOD, Supt., Manhattan, Kan.

MANHATTAN ADVERTISEMENTS.

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R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

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DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest styles, the most popular prices. Always pleased to show goods.

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ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

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W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

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PHOTOGRAPHS.

DEWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT & LONG'S LIVERY STABLE.—Everything new, strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

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6 BATHS, \$1.00 cash. 12 shaves, \$1.00 cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

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THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city. A complete grocery store in connection.

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GRACE M. CLARK, B. Sc., Stenographer in Executive Office.
LAURA G. DAY, B. Sc., Assistant in Sewing.
WM. BAXTER, Foreman of Greenhouses.
W. L. HOUSE, Foreman of Carpenter Shop.
H. K. BROOKS, Foreman of Iron Shops.
L. A. MCKEEN, Foreman of Farm.
C. A. GUNDAKER, Engineer.
A. C. MCCREARY, Janitor.
JACOB LUND, M. Sc., Fireman and Steam-fitter.

ASSISTANTS IN EXPERIMENT STATION.

F. A. MARLATT, B. Sc., Entomology.
F. C. BURTIS, M. Sc., Agriculture.
D. H. OTIS, B. Sc., Agriculture.
F. C. SEARS, B. Sc., Horticulture.
J. B. S. NORTON, Botany.
F. W. DUNN, B. Sc., Irrigation.

NOTES ON FLORIDA.

BY PROF. A. S. HITCHCOCK.

NOTHING appeals more strongly to the emotions of a naturalist than a collecting trip. I am no exception; so when granted a leave of absence, I lost no time in taking advantage of the opportunity thus presented for gratifying my longings. Ever since my visit to the West Indies I have had a strong desire to see the southern part of our own country and make a comparison of the flora with that of the former region. The nearest approach to the West Indian flora is found in Florida. My plans were therefore made for a trip to this interesting region. Starting from Manhattan June 15th, I traveled southward by way of St. Louis, Nashville, and Montgomery to Pensacola. I was obliged to stay a few hours at Flo-maton, a small station in Alabama, near the Florida line. It will be remembered that the weather through the north at that time was very hot. The landlady at the hotel remarked with a sigh of satisfaction, "O, how glad I am that I don't live north. A lady from Chicago tells me that just before she came down. It was 109° or 190°, I don't remember which. Isn't that awful?" I acknowledged that 190° was somewhat hotter weather than we were accustomed to have even in the north.

I took advantage of the stop-over to investigate the vegetation. I was much interested in the insectivorous plants so numerous in this region. The little sundew has leaves provided with numerous sticky hairs which entangle flies and other small insects, from which nourishment is transferred to the plants. The leaves of the pitcher plant were very abundant. The leaves are erect and about a foot long, with an upright lid at the top. The latter was conspicuously mottled, appearing at a distance to be a flower. The cylinder into which the leaf had grown was about an inch wide at the top. The lower and narrow part was found to be, in most cases, packed tightly with small insects in various stages of decay. Here again the plant obtains nourishment from animal food. The insects are attracted by the brilliant color of the leaf and further by the thin liquid which is secreted within. They tumble in and are drowned. A copper-head which I discovered eyeing me at dangerously short range was induced to depart by placing a long stick upon his back.

The large-flowered magnolia (*M. grandiflora*) was in bloom. The foliage of this tree is striking, the upper surface of the leaves being a polished dark green. We are unaccustomed in the North to find showy and fragrant flowers upon large forest trees. The flowers are in shape much like a water lily, pure waxy white when fresh, and about six inches wide. A tree full of these is a magnificent sight.

The Passion-flower (*Passiflora incarnata*) was in full bloom. The flowers are beautiful from their white and purple color, but still more interesting from the use they make of the large humble-bees. The five stamens arch over from the center in such a way that the bee, as it runs around the large open crown at the base sucking up the nectar stored there, rubs its back against the anthers. The three stigmas are at this time raised high above the bee. Later, when the pollen is exhausted, these turn down and scrape from the bee's back the pollen brought from another flower, thus bringing about cross-fertilization.

The title reads "Notes on Florida," and although I have used up my allotted space I have gone no further than Alabama. We will go on to Florida next time.

THE IDEAL STUDENT.

BY W. O. PETERSON, '96.

THERE may be some difference of opinion among students and the general public as to what the ideal student should be. I think, however, your idea will almost conform to the ideal which in a few words I shall attempt to describe.

The word student signifies "one who studies," but this does not say how much or how little, and hence is a very vague, insufficient, and incomprehensive meaning to what should be our ideal.

If you ask the true student why he studies, he will undoubtedly answer because he wishes to gain in knowledge, usefulness, and influence. He may give a secondary reason, namely, his love for study. As a matter of fact, however, the student who does not learn to love his work will not make much progress. All our great scholars, scientists, philosophers, and others have incessantly loved the work in which they have been engaged.

The ideal student is systematic in his work. He

must learn to classify knowledge; to see the important parts in studying a subject. A mere bunching together of facts without any connection between them is of very little value. Another requisite is thoroughness and accuracy. No hap-hazard guess-work will give any lasting results. It is not how short a time it takes you to learn certain studies, but how well can you remember them, and apply their principles, when necessary, that counts the most for your success. It seems to me far better to complete a four years' college course in five years, if need be, than to do so in three or four, merely to get through and not know what you thought you had learned well enough to be of genuine practical value. You may be able to judge a great deal of a student's character by how he studies, and thus get an index to his success or failure in life.

Another vital question concerning the student is, when he studies. Strange as it seems, there are a few, even at this College, who do not appear to study at all. Such will generally, sooner or later, drop out; if not before, at least the examination will weed them out.

The thorough student has regular hours of study, and will rarely deviate from them; and in this lies the basis of a student's success. He knows better than to use the time for study that he should have for sleep, and consequently is rarely found using the "mid-night oil" to prepare next day's lessons.

Such, in brief, are some of the characteristics to mark the ideal student.

COPIES OR MODELS?

BY PHOEBE E. HAINES, '83.

DRAWING is a universal medium for the expression of thought, hence of incalculable value as an educational factor. How best to acquire facility of expression by this means is a mooted question. Very diverse opinions are held by the two extremes in the discussion of "Copies versus Models." The one works largely from copies; the other, from objects. A middle course of action is the one usually followed, and rightly so.

In every system of education, in all the various methods of instruction, the aim should be to lead the student to mastery of self, to originality of thought, to clear reasoning, and to a search for the causes and foundation principles of the facts and phenomena with which he comes in contact. The environment of a school, the means at its disposal, the purpose of its existence, must all be considered in determining the method best adapted to any given line of work.

Generally the subject of drawing is treated under three divisions—constructive, representative, and decorative. As the purpose of the public school is, or should be, to lay a foundation broad enough to meet the needs both of the future specialist and of the all-around man, these three divisions should be taught simultaneously. As the thought must precede the expression, the ideal method for drawing must develop the imagination. Place in the hands of the child the simple geometric solids. He instinctively desires to reproduce in some plastic material the ideas of form, size, etc., which he has acquired in his examination of the object. He may then be led to express these ideas on paper in imperfect lines, just as in his first scrippings the sentences are crudely constructed and indistinctly pronounced, skill growing naturally by repetition of the effort. But the school system giving this training, begun with the kindergarten and carried on by easy stages to the high school and college, is sadly wanting. Through wide-spread ignorance as to the value of drawing, it has not been accorded its proper place in our public schools; and, without previous knowledge of the subject, students often enter colleges where the time allotted the work is all too short at best. How, in this limited time, to obtain the best results for the greatest number of students, is then the question.

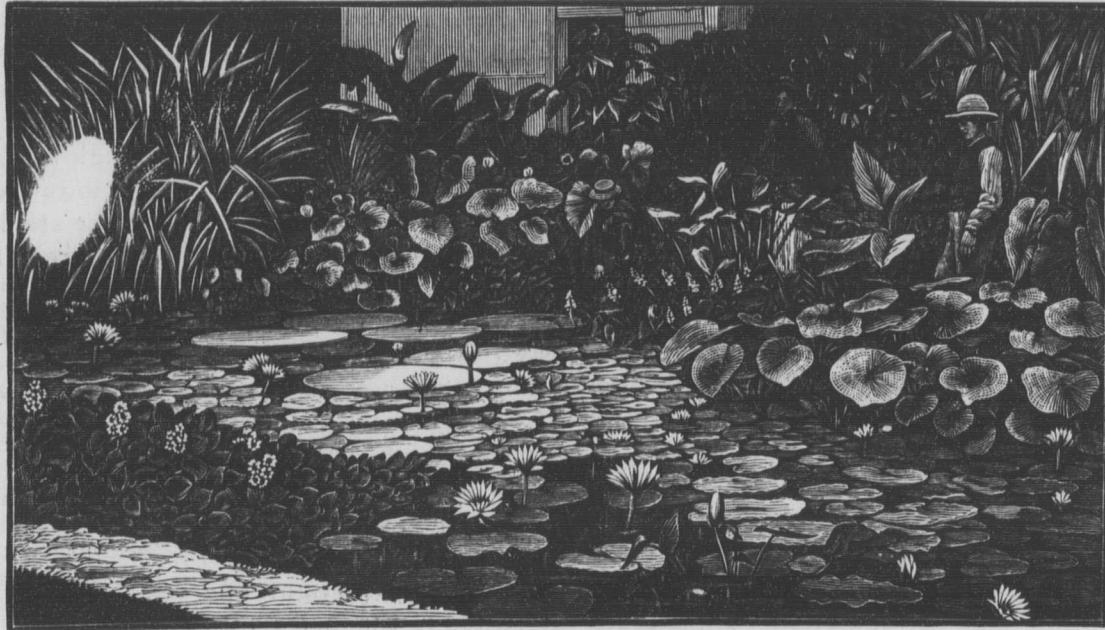
It is not the purpose of the Agricultural College to produce artists, but to equip young men and women for active work in the broad field of industrial pursuits. The first-year's work of our course in drawing—free hand and mechanical—develops in the student all the conceptions pertaining to the plane, as those of form, magnitude, and harmony in arrangement of lines and spaces in decorative design; also, taste, neatness, accuracy, and ability to construct the plane geometric figures, together with skill in the use of material and tools. Of these results, undoubtedly the most difficult of attainment is the formation of correct taste. In the second year, projection drawing and descriptive geometry cultivate still further habits of clear and ready imagination, with skill and rapidity of execution in problems of three dimensions. The third year linear perspective completes a solid foundation for intelligent study and delineation of forms from nature. The fourth year finishes the course by initiating the students into the practical work of the shops and the draughting room. From the satisfactory character of results thus far obtained, it seems evident that success in industrial drawing may be expected from such a plan of instruction.

THE WATER GARDEN.

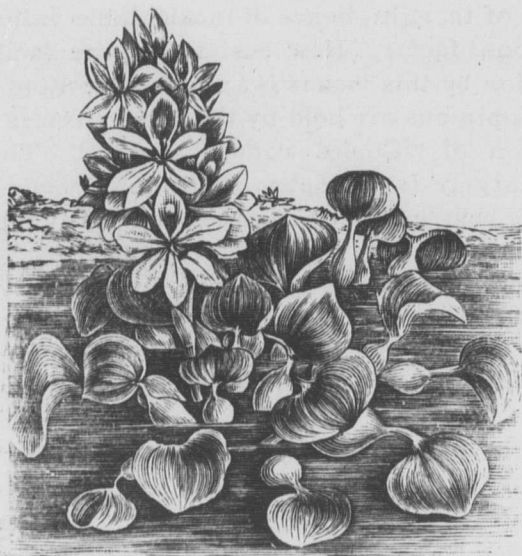
BY J. S. C. THOMPSON.

THE adornment of homes is so easily accomplished, and at such small expense, that a shabby or a dirty or even a plain door-yard should be the exception instead of the rule, as is now the case. Nothing gives more pleasure to the home dweller or excites more genuine interest of neighbors and passers-by than a well-kept place—a fairly level, sloping, or gently rolling lawn, its thick covering of grass closely trimmed, the groups of trees and clusters of shrubbery combining to form a scene of beauty which is at once satisfying and restful to the eye, and makes the place one of more than ordinary interest in the neighborhood. Very often such a place is an object lesson from which neighbors profit, and everybody that chances to see it will, or should, derive some benefit therefrom.

But however beautiful a door-yard may be made by the employment of the methods here hinted at, improvement is possible at trifling expense by the addition of a pond in which to grow water lilies and other aquatic plants. In the rear, or toward the rear,—never in front,—of the average residence lot in a town provided with water-works there is a place for a water garden on a scale to suit the size of the lot.



A WATER GARDEN OF MODERATE SIZE.

WATER HYACINTH.
(*Eichornia Crassipes major*.)

The home lot is, in fact, incomplete without its pond for aquatic plants, even if none be grown therein, the presence of water itself being almost necessary to complete the landscape, small though it may be.

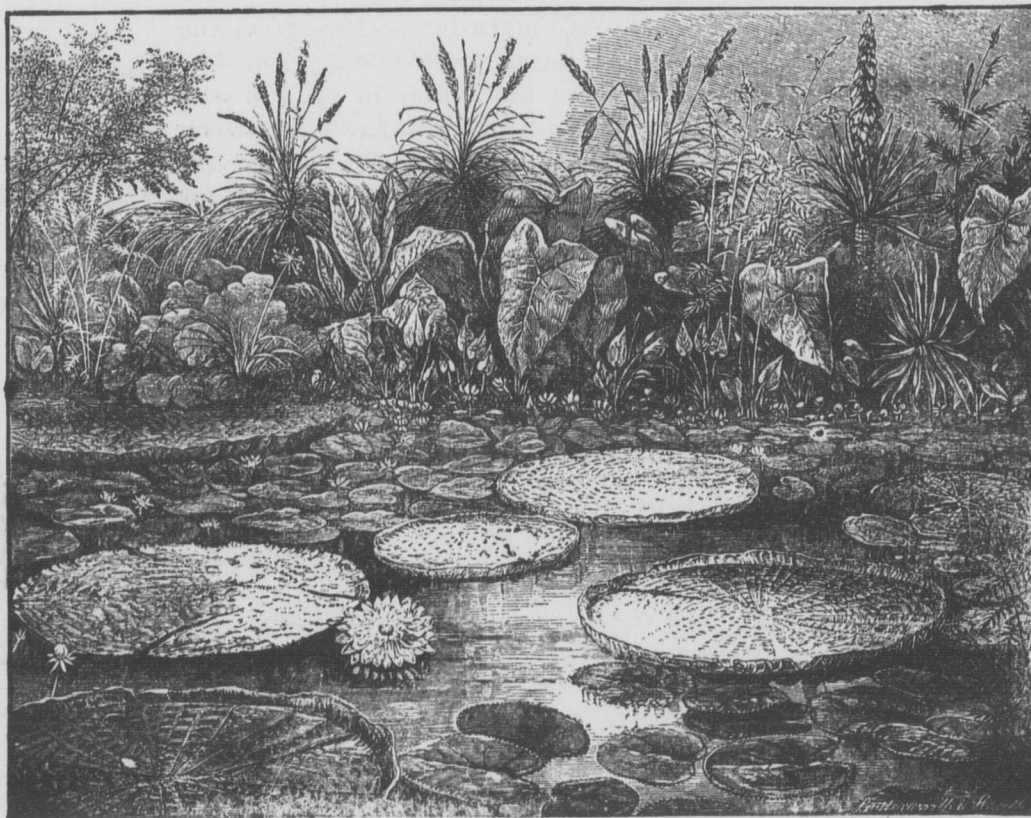
In the opinion of the writer, there are many arguments for and none against the artificial lily pond. In the first place, water plants are well-nigh universally admired; they are cheap; they require no attention beyond supplying them with water; they do not suffer from drouth except it be accompanied by hot winds, and not then if planted in a somewhat sheltered situation, of which mention will be made later. The pond itself requires the expenditure of little money and labor, and may be built by any one of a fairly mechanical turn of mind. "But how do you dispose of the overflow?" asks an interested neighbor. There is none. Contrary to the popular belief, a pond without an outlet will not become stagnant, evaporation providing waste in sufficient quantity to keep the water always fresh. Little water is therefore required to keep a pond of moderate size filled. Nor is a small pond a breeder of mosquitos in formidable numbers. An evening may be spent in the vicinity of a pond with no more annoyance from the pest than one would experience elsewhere. Four years' experience with a lily pond convince the writer that the mosquito question should not be considered in planning for a water garden.

The location of a pond depends much upon the surroundings. It should never be obtrusive; neither should it be wholly hidden from the street. A sunny place well toward the rear is best adapted to this

use. Care should be taken to provide, if possible, a wind-break to the southwest, to ward off the scorching hot winds which blow in late summer, and protect from the fury of the gale the foliage of the semi-tropical plants which should border the pond or form a background to it.

Upon the size of the door-yard and surroundings likewise depend in a measure the size of the pond. A few plants of the lesser kinds may be grown successfully in a very small pond, even in a half barrel or tub, but the more room the plants are given the

larger and more abundant will be the flowers; and the foliage itself, in the case of lilies, will make a much larger growth in a pond of fair size. The water hyacinth has been found to blossom more freely in narrow quarters than in a pond where it had unlimited range. The same is true of the water poppy to a certain extent. Either of them, if given the run of a pond, will soon occupy it to the exclusion of the lilies which may be planted with them. A pool not to exceed eight by twelve feet will give very satisfactory results on a small lawn. In a pond of the size indicated may be grown three or four water lilies, a poppy, and a hyacinth, and a corner may be found for a parrot's feather. The hyacinth and poppy should occupy separate quarters, and either will flourish in a space four feet square. A pond of the size named and eighteen inches deep may be built at an expense of \$10 to \$15, according to the materials employed. Brick will be more expensive at the outset, but will make a more lasting job, not liable to be affected by frost. If brick is used "bats" will be found to answer every purpose and be much cheaper than whole bricks. They should be laid in Louisville cement, and coated with the harder Portland cement.

THE GIANT WATER LILY.
(*Victoria Regia*.)

If it is desired to give the pond sloping banks, a concrete base three inches thick, covered with a half-inch of Portland cement, will prove quite durable. By filling the pool with leaves and straw in the fall, frost will do little if any damage.

The shape of a lily pond may vary with the taste of the owner—round, oval, square, or oblong. The

writer's preference is for an irregular shape with a border of rough, weather-beaten "cotton-stones" which seems to lessen the artificial appearance a made-to-order pond will naturally have. A pretty effect may be produced by building a rockery at one end of such a pool. Through the center to the top of this run the supply pipe, allowing the water to trickle down over the rocks into the pond. The rockery should be shaded, and moss and native ferns grown in the nooks and corners.

The great variety of aquatic plants offered by the large dealers make it rather difficult to choose the few that can be accommodated in a small basin. The average amateur will, I think, find the commoner sorts more satisfactory on the whole, and much less expensive than the rare varieties sought after by connoisseurs.

The American Water Lily (*Nymphaea odorata*) is a standard sort. If the mud is rich it will produce flowers from four to six inches and leaves from eight to twelve inches in diameter. The price of good plants varies from 20 to 30 cents. A larger sort is the Florida *Nymphaea gigantea*, the leaves of which are sometimes slightly cupped and prettily scalloped.

The Yellow Water Lily (*Nymphaea flava*) is worth a place in any collection, producing beautiful yellow flowers touched sometimes with

WATER HYACINTH.
(*Eichornia Azurea*.)

brown and deliciously fragrant.

The Blue African or Zanzibar Water Lily is a fine sort. It may be easily grown from seeds, and made to flower the same season. The Red African Lily will probably do as well, though of mixed seeds (red, white, and blue) three local growers the past summer got only blues.

The water hyacinths, of which there are two distinct varieties, should form a part of every collection of aquatics. *Eichornia Crassipes major* is the best known sort. The leaves are borne on inflated stems, and the hairy roots hang low in the water. The flowers are borne in large upright spikes, are lilac in color, spotted in the center with a dash of lemon yellow. The flowers of *Eichornia azurea* resemble somewhat those of *E. Crassipes major*, but the edges of the petals are fringed.

The Water Poppy (*Limnorchis Humboldtii*) is a charming plant with oval floating leaves. The flowers, of a bright lemon yellow, stand a few inches out of the water, and are produced freely throughout the season. The Parrot's Feather planted with the Poppy gives a pleasing effect, and neither seems to suffer by the presence of the other.

The Egyptian Lotus (*Nelumbium speciosum*) is one of the grandest aquatics, but is hard to start. It should occupy a separate pond or be well confined to

definite limits, since, once started, it monopolizes all available space.

For border plants, the Banana, Caladium Esculentum, Canna, Iris, and the various ornamental grasses may be used. The larger illustrations show something of the treatment a back-ground should receive.

NOTE—The illustrations here used are kindly loaned by Mr. E. D. Sturtevant, of Bordentown, N. J.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

New students are dropping in almost daily.

F. R. Shofe, First-year, is in classes after a week's illness.

Miss Pearce made a business trip to Topeka last Saturday.

Prof. Nichols changes his Chicago address to 5724 Drexel Avenue, with Mrs. Nichols' sister.

Proofs are received from the State Printer of a neat eight-page booklet advertising the College.

Assistant Dunn of the Irrigation Station will make a business visit to headquarters next week.

The funeral of W. P. Higinbotham, Friday forenoon, called several members of the Faculty from classes.

Prof. Hitchcock has just issued a neat pamphlet entitled, "A Key to the Genera of Manhattan Plants."

W. O. Peterson, Third-year, showed his brother and wife of Chicago, and his sister, through the buildings on Monday.

Mrs. C. S. Crain, of Russell, spent Wednesday and Thursday of last week visiting her nephew in First-year classes.

Mr. Hughes, late Superintendent of Instruction in Elk County, and an old-time friend of Prof. Olin, visited College on Monday.

Mr. and Mrs. Marlatt and daughter Mary visited College yesterday afternoon to show their relative, Mr. Bloomer, something of the institution he plans to enter.

Hon. W. Chenault, of Fort Scott, was the guest of Sec'y Graham last week. He was very highly pleased with his inspection of the College of which he had heard so much.

The annual cyclorama of brilliantly decorated landscapes about the College grounds has been open for the week past. The exclamations of visitors are daily music to us.

C. F. Doane, Third-year, enjoyed a visit from his father, Mr. Doane, of Louisville. This was Mr. Doane's first visit to the College, and he found many things of interest to him.

Miss Radford, of Lawrence, General Secretary for the Young Women's Christian Association, addressed the students on Monday morning after Chapel with pleasant words of greeting.

The Agricultural College at Manhattan has begun the new year with more students than ever before. No similar institution has so large an average attendance.—Orange Judd Farmer.

The College cannot send a delegate this year to the profitable meeting of the Association of Agricultural Colleges and Experiment Stations, at Washington, D. C., October 13th, but offers good will instead.

A list of delinquencies in bonds and interest prepared for the biennial report of the Board of Regents shows that school districts and other municipalities were never more prompt in payment of obligations than now.

A union meeting of the Young Men's Christian Association and the Young Women's Christian Association will be held tomorrow afternoon at three o'clock in South Society Hall. Mrs. Hofer will render a vocal solo, Misses Selby a vocal duet, and G. W. Fryhofer will give a review of the Lake Geneva Summer School which he attended by authority of the Association.

The Second Division of the Third-year Class entertained the public in chapel Friday with declamations as follows: A. Smith, "Some Unpardonable Vices;" Louise Spohr, "A Happy Temper;" C. Snyder, "The New Era;" Alice Shofe, "LaFayette and Robert Raikes;" C. H. Stokely, "The Nature of Home Music;" H. J. Robison, "The Pullman Strike a Damage to the Farmer;" Mary E. Wilkin, "Evolution;" E. L. Smith, "The Spiritual in Education;" Miriam E. Swingle, "Shooting Hoosac Tunnel;" R. S. Kellogg, "American Literature."

Although Pres. Fairchild was the only representative of the College in the ceremonies of dedication of the Spooner Library at the State University last Wednesday, all have rejoiced together at the beautiful and commodious home for books and students provided by the generous gift of so benevolent a man. May this be an incentive to other benevolent men in the use of their wealth. The gathering in honor of the occasion was a notable one for the men of note representing all classes of interests, the entertaining addresses, especially that of Pres. Northrup of Min-

nesota University, and the universal good cheer. Everybody was glad to be there and share in the house-warming.

Hon. F. D. Coburn, Secretary of the State Board of Agriculture, has conferred upon the farmers of Kansas an immense benefit by publishing in his quarterly report for September an exhaustive compilation of the experience of farmers throughout the State in feeding wheat to domestic animals. The results in Experiment Stations where tests have been made are also concisely presented. While the opinions of the numerous observers differ so widely as to show that most of the conclusions are founded upon insufficient data, they form a most admirable basis for interest in the careful experiments already planned for the Kansas Station this fall and winter. All interested should secure the report, and compare their own experience with that so admirably detailed.

No combination of weather and circumstances could have been more perfect than that which gave complete success to the first Fourth-year party of the season, Friday evening. Shortly after dark over half a hundred of seniors in parties varying in number all the way from four to twenty-four, gathered at the home of their classmates, F. E. and R. W. Rader, about three miles northeast of town. The class band, consisting of eight members, whose most attractive accomplishments were their white stove pipe hats, greeted the assembling revellers with numerous popular and patriotic songs, none of which we are at present able to name. After an hour of conversational enjoyment, a splendid musical program was rendered, consisting of a mandolin and guitar duet, a guitar duet, a vocal trio, and a ladies' comb quartette. This was followed by an impersonation by G. W. Fryhofer, the most humorous feature of the evening. Refreshments were then served, they were also eaten—they were eaten because they were in every sense the most palatable. Until eleven o'clock every moment seemed more enjoyable than the preceding one, and all went home blessing the host and hostess, the refreshment committee, and the brass band.

GRADUATES AND FORMER STUDENTS.

M. V. Hester, '94, is farming at Haviland, and will teach this winter.

A. E. Campbell, Second-year in 1890-91, visited College on Monday.

W. H. Steuart, Fourth-year, went home yesterday to spend two days.

G. W. Smith, '93, studying homeopathy under Dr. Ross, of Manhattan, visits College occasionally.

E. G. Voiles, Second-year in 1891-2, is very low of malarial fever at his home on College Hill.

Prof. N. A. Richardson, '80, Superintendent of Schools at San Bernardino, Calif., is nominated by the Populists of his State for Surveyor General.

Mrs. Mattie E. Mails-Coons, '82, has the sympathy of classmates and friends in the loss of her little daughter Bessie by diphtheria of a most malignant type.

Clayton Hunter, Fourth-year in 1891-2, who for a year or more assisted his father in the County Treasurer's office, is taking a course at the Kansas City Dental College.

Geo. Forsyth, Third-year in 1893-4, and for the past few weeks acting janitor, started on Tuesday last on an overland trip by bicycle to his home in Howard, Elk County. Mr. Forsyth plans to re-enter College in the winter term and complete the course with the present Fourth-year Class.

Garden, Orchard, and Vineyard.

The sweet potatoes have most of them been dug, and the yield for most varieties is very satisfactory. Red Bermuda and Early Golden give the largest yield, but Black Spanish and Yellow Nansemond are not far behind, and more than make up what they lack in weight by the smoother and more even appearance. "Vineless," a sort with vines not more than two feet in length, has not done as well as it promised earlier in the season. It is certainly a great convenience to do away with the long, trailing vines of the ordinary varieties, but as it seems also to have done away with most of the potatoes, the convenience will come too high for profit. On half of the patch the vines were trimmed back to two feet in length every ten days or two weeks, and on the other half they were simply thrown back on the row. So far the difference in yield seems to be decidedly in favor of the half not trimmed, but when the figures are all in and allowances made for vacancies, etc., this result may be changed.

The peach trees budded this fall have done remarkably well. On some rows, budded the fore part of September, fully 95 per cent of the buds have "stuck," and, unless some accident happens to them, we shall have a fine lot of young peach trees by another year. The budding has furnished some excellent work for the boys having special industrial in the department.

The dry summer, followed by the abundant rains of September, has caused many of the apple trees to blossom, some of them almost as profusely as is usual in the spring. This waste of blossoms is to be deplored, but seems to be beyond control.

Those who want a late variety of grapes, one which will be in prime condition after others are gone, will

do well to plant a few vines of Mills. At this date (Oct. 13th) the vines in the experimental vineyard still have a dozen or more bunches on them, and the berries are just at their best. It is true the bunches have been bagged, but this is little trouble, and there is no reason why they should not remain in good condition for ten days or two weeks longer.

There are several decidedly handsome things about the grounds just at present. One is the oak-leaved mountain ash just southeast of the President's house. The bright red berries and dark green leaves produce a fine effect. The Tartarian maple east of this and just across the drive, is a blaze of orange and red, and is the most striking bit of color on the grounds. Another decidedly handsome thing is the row of Cockspur thorn in the arboretum. It fruited abundantly this year, and the fruit is beginning to color up well. The various barberry bushes along the drives, with their bright red berries and bright green leaves are also worth seeing.

F. C. SEARS.

Notes from the Shops.

There are enrolled up to date in the Carpenter Shop, 154; Blacksmith Shop, 15; Foundry, 6; Machine Shops, 8; total, 183.

Secretaries, bookshelves, music stands, hall racks, foot stools, collar and cuff boxes, etc., are among the various articles in process of construction by the advanced carpenter boys.

The Carpenter Shop is much more roomy and convenient since the rearrangement of shafting and machinery has been completed.

The Mechanical Department has completed the electric line to Science Hall, and the Societies now discuss their points of order by the light of the incandescent lamp.

Foreman Brooks and the Machine Shop boys are rebuilding the old Atlas engine, which did duty for ten years in the Carpenter Shop. It will soon take its new position in the electric power house.

A temporary coal pit is being constructed along the west side of the boiler house, which will serve the purpose, until a permanent one can be obtained.

For a few days the sound of riveting made one think a boiler shop had been added to our equipment. An iron coal car holding about half a ton, made of quarter-inch steel plates, was being put up by the boys.

A number of visitors capable of passing judgment have been kind enough lately to speak highly of the samples of blacksmith work which have been put up.

The sectional Westinghouse air brake and engineers' starting valve which belong to the shop attract the notice of some inquisitive students.

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emelie Pfuetze; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembly, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Secret; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentleman.

October 5th.

When President Thompson called the Ionian Society to order, directly after the lecture, the room was filled with members and visitors, and the hissing of the steam in the radiators told that in spite of the cold outside, we had found a pleasant place to spend an hour or two. Conversation was not hushed till Emma Finley began to play the opening hymn, which all joined in singing. Maggie Correll led in prayer, asking God's blessing on the work of the afternoon, and then came the roll call, to which a large number responded. Phoebe Smith, Gertrude Rhodes, and Winifred Houghton were elected to membership, and these, with Mary Pritner, then pledged themselves to be faithful Ionians. The program was opened by a vocal solo, "The Song that Reached My Heart," by Mable Gillespie, Rena Helder at the piano. Flora Waugh followed this with a parody on "After the Ball," in which she related some of the trials and tribulations an Ionian girl passed through earning her dollar. Next on the program was a review of Oliver Wendell Holmes' interesting book, "The Guardian Angel," by Nettie Burtner. Rena Helder's instrumental solo was heartily encored, but she did not respond. The Society appreciates the interest Miss Helder shows in the Society by her oft-repeated visits, and the cheerfulness with which she gives us a share of her music, just as she did when an active member. The "Oracle" was presented by the editor, Olive Long. Some of the things discussed were, "Three things for girls to remember," "A noble Ionian," "Slang," and an interesting geometrical proposition was demonstrated, while among the announcements was one of a musical program to be given in two weeks. Under extemporaneous speaking, Harriet Vandivert committee, Mabel Selby told

of Mrs. Lease and her objects; Edith Lantz, of the aims of society; Miriam Swingle spoke of Prof. Will's lectures; Ethel Patten, of the political parties in Kansas; Louise Spohr, of her favorite amusement; and Gertie Lyman talked on the subject, College life, and what do you think of it? The program was closed with a vocal duet by Emelie Pfuetze and Maggie Correll, "Has sorrow thy young life shadowed?" Rena Helder at the piano. The critic gave some good advice which it would be well for the Society to follow. After the roll call with quotations, the Society adjourned. E. E. N.

October 5th.

When President Phipps called the Alpha Beta Society to order at 2:30, almost every chair in the new Society Hall was filled with members and visitors. Nora Fryhofer led in prayer. Miss Wilder and Mr. James were initiated. A full program had been announced, but owing to a misunderstanding between the Board and other officers, members were not prepared for duty. The debate was on the question, "Resolved, that Congress should appropriate money to irrigate the arid regions of the West." Elva Palmer and Edward Shellenbaum spoke in the affirmative, and J. B. S. Norton and G. W. Fryhofer on the negative. The judges, Mr. Jackson, Mr. Trembley, and Nora Fryhofer, gave their decision two to one for the affirmative. The Gleaner, with the golden rule for its motto, was presented by A. C. Havens. The paper was full of good articles mingled with sparkling bits of humor, and was a credit to the division. Max Spaulding was next permitted to recite a selection from Bryant which he had once given at a Sunday school picnic. The Society was deeply moved by this beautiful poem and the impressive manner in which it was delivered. The whole time after recess was occupied with important business, and at a late hour the Society adjourned. J. B. S. N.

October 6th.

The Hamilton Society was led in devotion by S. Robbins. G. W. Farley was installed as Marshal. H. M. Thomas entertained the Society with a comic declamation. The debate on the question, "Resolved, That the present administration is not responsible for the existing hard times," was argued affirmatively by W. I. Joss and S. Robbins, W. H. Painter and A. C. Smith denying the argument. Among other things the affirmers said that, having been so prosperous as a nation, we have progressed beyond our adequate means of support, and are now reaping the harvest of our folly. The financial crash came only a few weeks after the present administration assumed control, and before they had had time to legislate. It was shown that the various monopolies, combines, and trusts, foreign immigration, failure of crops, and general extravagance were important factors in bringing on the present state of affairs. In the denial it was claimed that most of the industries closed through fear of Democratic legislation. Among the first acts of Congress was the repeal of the Sherman Silver Purchase Act, which caused silver mines to close, thus filling the West with unemployed workmen. The effect of the Wilson Bill was held to be disastrous. Decision in favor of affirmative. "Romance of a Carpet" was the subject of a well-delivered declamation by G. B. Norris. Next was the "Recorder," edited by A. P. Carnahan. "A Hidden Mystery Revealed," "Hope," "An Episode," "A Chronicle," and "Literature," were some of its contents. After recess John Poole favored the Society with some exceptionally good violin music. After the usual routine of business, extemporaneous speaking was indulged in till adjournment. E. C. J.

October 6th.

Saturday evening found the Websters gathered in full force as shown by the response to roll-call. C. D. McCauley led in prayer. Under initiation of candidates, Messrs. Curry, Lee, and Smeltzer were received as members of the Society. An interesting debate then followed on the question, "Resolved, that the Legislature should pass laws organizing college battalions into State militia." W. H. Steuart and E. E. Rader gave several excellent reasons for so thinking. The following in substance was their argument: The military departments of colleges, in giving such education to the young men, do so for the purpose of having their aid in time of need. Then while in college and under good discipline we will be most effective, and so useful to the government. We owe this service for the benefits we receive here. Membership in militia by means of competitive drills would bring us before the people, and so advertise the College. The militia encampments would be very beneficial to the students. The negative, in the persons of F. J. Smith and W. A. Cavanaugh, made several emphatic denials, which, aided by strong argument, won for them the question. They held that since the national guards are inferior in discipline, we could not be benefited by contact with them. Our number is small, and could not be of material assistance. Taking students from their studies at any and all times would be very detrimental, and they would probably be made use of for political ends, which would advertise our College, but not in a desirable way. C. E. Willey next gave a well-rendered declamation entitled "The New South," which showed much thoughtful preparation. Music by the Webster Trio was heartily enjoyed and received a welcome response. The Reporter, F. E. Uhl, editor, gave all good food for serious thought, as well as some funny things from our humorists. The critic's report was made in the usually happy style of its author, and was followed by general criticism, which privilege was freely indulged. Under the business heads, committee reports, appointments, and assignments, enlivened by interesting parliamentary practice, occupied the time until adjournment. A. G. B.

How Plants Get Nitrogen from the Air.

The air we breathe is about four-fifths nitrogen and one-fifth oxygen. We use the oxygen in breathing, but discard the nitrogen. It has been regarded merely as a material for diluting the oxygen, which would otherwise be too strong for our use. All attempts to economically render this nitrogen of the air available for plant food, by chemical means, have been unsuccessful. Recently it has been discovered that the so-called leguminous plants—clover, peas, beans, lupines, vetches, etc.—can take up this nitrogen of the air, and can grow without being manured with nitrogen if manured with phosphoric acid and a nod potash.

The manner in which this nitrogen assimilation takes place has been carefully and patiently studied by scientists, and although the details are not fully understood the primary cause has been found. It is believed that plants are enabled to get this nitrogen through the activity of the lower forms of life, bacteria, or microbes, which can only be seen with the aid of a powerful microscope. These organisms live in the soil and are to be found where leguminous plants have been grown. They produce or cause the plant to produce little nodules, or tubercles, on the roots. It is through these tubercles that the plant gets its atmospheric nitrogen. The air enters the soil by the numerous pores or openings in it, which are produced by ploughing, cultivating, and working the soil, by the decay of rootlets, by earthworms, etc. By just what physiological processes the nitrogen assimilation takes place is a question still in dispute among scientists. It is sufficient for practical purposes to know that nitrogen is taken up from the air by the growing plant, directly or indirectly; and that this nitrogen assimilation takes place as a result of the life of bacteria. It is a peculiar fact that few, if any, root tubercles are formed when leguminous plants must first hunger for nitrogen before the tubercles are formed, and the presence of tubercles indicates that the plant is taking nitrogen from the air.

Now, curious as it may seem, there appear to be different forms of bacteria for different kinds of plants. Hence it sometimes becomes necessary to provide crops with the necessary bacteria before they can use the nitrogen of the air. This is done by applying a light dressing of soil in which the kind of plants it is wished to grow have been grown previously. This is called soil inoculation. It is sometimes necessary in growing a crop on a piece of land for the first time in several years. Suppose, for instance, that peas which had been sown on land manured with phosphates and potash but without nitrogen, failed to grow luxuriantly. If the other conditions were favorable, the inference would be that bacteria of the right kind were lacking in the soil, and a light dressing of soil in which peas had previously been successfully grown might be applied. Such treatment as this has been repeatedly tried with success on a large scale.

These discoveries throw a new light on green manuring and on the plants best adapted for green manuring. They recommend it more highly than ever before as a soil renovator and a cheap means of maintaining the fertility of a soil. They show that while both leguminous and non-leguminous plants enrich the soil alike in humus-forming materials in proportion to the size of the crop, they differ in respect to the source of their nitrogenous materials. While non-leguminous plants derive their nitrogen supply almost exclusively from the soil, leguminous plants may take theirs largely from the air. Consequently if spurry, buckwheat, mustard, etc. (non-leguminous plants), are grown on the soil and the crop plowed in, the soil is not materially enriched in nitrogen; the process is simply returning to the soil all the nitrogen which the crop took from it. But since leguminous plants may derive the larger proportion of their nitrogen from without the soil—that is from the air—their use for green manuring actually enriches the soil in nitrogenous matter.

It will be seen that by green manuring with leguminous crops it is possible to manure the soil with nitrogen from the air, a free and inexhaustible source and thus avoid buying fertilizers containing much nitrogen. This greatly lessens the expense for commercial fertilizers, for nitrogen is the most expensive element the farmer has to buy. As stated above, it costs from 15 to 20 cents a pound, while potash and phosphoric acid costs only 5 to 7 cents, or even less. Although grains, grasses, corn, cotton, root crop, tobacco, etc., cannot use the nitrogen of the air, green manuring enables them to benefit by it indirectly. —Farmers' Bulletin No. 16, United States Department of Agriculture.

The farmer must be so educated that he can see a grandeur in his vocation not surpassed by any other business. He must live above the drudgery of farm work, and see that his calling possesses opportunities not surpassed by any other. The bustle of the city does not disturb his meditations while planting, cultivating, or gathering in. He can look at the beautiful flowers at his feet and there see the pencilings of the Creator of the universe. Every leaf is a book, and even the stones beneath his feet are "stumbling blocks for the ignorant, but food for the wise." If he turns his eyes upward and beholds the candles of night glimmering in the skies, that grandly true line will echo through his soul, "The heavens declare the glory of God and the firmament sheweth his handiwork." Humanity can not be encompassed with grander teachers. No wonder that the farm has produced the grandest men the world has ever known. The farm children must be educated to feel that there is a grandeur and an honor in farm life found nowhere else. —Prof. Allen Moore.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

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Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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IRRIGATION FOR EASTERN KANSAS. II.

BY PROF. S. C. MASON.

"THE farmers of Western Kansas will do more figuring this winter than they have ever done before in their lives." This remark was called out by the fact that the exhibit of the pumping machinery, windmills, and engines, at the recent Garden City Fair, drew larger crowds than the race track, a thing doubtless before unheard of at an agricultural fair.

The variety of questions the exhibitors were called upon to answer regarding the capacity and cost of their different plants showed the disposition to "get to the bottom" of the facts in the matter.

While many false hopes may be raised and many trials made which will end in disappointment, in the long run the gain is sure to be great and the productive capacity of the West greatly increased by all of this agitation.

The Eastern Kansan has always known, he would tell you, that the West did not have rain enough, and that those fellows would have to "irrigate or emigrate" sooner or later. The Eastern Kansan always believes it is too dry in the next county west of his. But after having his own favorite corn crop cut short once or twice he begins to ask seriously whether irrigation can be made to pay for Eastern Kansas.

Before attempting to answer this question, let us look at some important differences between this section of the State and the irrigation districts of Colorado, Utah, or California. In those countries, the farmer knows to a reasonable certainty that the water he turns upon his crops from the ditch is all that they will receive.

Rainfall during the growing season is so slight as to be counted out in the problem of watering the crop. In scientific irrigation the application of water to the growing crop in proper amount and at the proper time has been reduced to a nicety. The inexperienced fail about as often in applying too much water or at the wrong time as in not watering sufficiently. Let us suppose the Eastern Kansas farmer equipped with a ditch and water supply. During a protracted drought he floods his land, watering the crop as thoroughly as it will stand. A soaking rain follows, and the land, already well watered, becomes almost a bog. The crop, if not ruined, will take some time to recover.

We see that if our farm lands are to be irrigated, the work must be adapted to our immediate conditions. Careful grading and drainage must be secured and experience gained in the use of water.

Again, where a large irrigation scheme is carried out, capital must be interested and the returns secured by water rates or rents from the farmers tilling lands under the ditch. If the farmer knows that he must depend upon the ditch water wholly, he will make contracts for a given water supply, sufficient for ten or a hundred acres, as the case may be, with as much certainty as he would buy his year's supply of fuel or engage his hands for the season's work. The ditch companies also feel as sure of a market for their water as the coal operator does of a market for the output from his mine.

In this section of the State sufficient rainfall is the rule, a drought the exception. Seasons, in the past, when the rainfall was so heavy as to be a damage to the crops, are about as numerous as those of complete failure from lack of rain. It becomes evident that the duty of water here would have to be computed upon a very different basis from what it would be in Colorado or Utah, or even in Western Kansas, and yet the demand upon a certain ditch at some particular period of drought may be as great as in any locality.

The Colorado irrigator engages water upon the basis of his greatest need during the season. If the Kansas farmer engages upon the greatest possible need, he must carry this expense for months, perhaps, as an insurance against loss of his crop in time of drought.

Other differences in conditions may also be taken into account. Our streams, as a rule, run deeper in the channel than do the mountain streams, and have very much less fall to the mile. The difference between the natural water level and the level required to reach the land will be greater, and hence either a longer canal will be required or a head secured at the start by putting in a strong dam.

Our streams carry so much more soil in suspension, especially in times of floods, that the filling up of reservoirs and canals from silt or sediment would be much more rapid.

Taking all of these difficulties into account, the fact still remains that our crops are often lost from drought, while floods of storm water have past by us that might have been diverted upon the land. Our people are awake to these facts, and it seems probable that irrigation will, in the near future, be called into play to assist the rainfall in developing our crops. That this will be by means of individual or co-operative effort at first seems most probable.

If such enterprises prove profitable, they will stand as object lessons for the surrounding community and larger investments will be sure to follow.

SUBSCRIPTION BOOKS.

BY PROF. D. E. LANTZ.

THE business of publishing and selling books seems to have two distinct branches. In one the publisher reaches the public through the wholesale and retail book-seller, just as the maker of boots or watches would reach his public through the trade. The other depends upon the work of soliciting agents who do not, like the ordinary peddler, carry their wares from house to house to sell them, but affect their sales through sample copies, or from a prospectus. These prospectuses are prepared with great care, and are usually nearly as expensive to the publisher as the copies of the books which they represent. They are well bound; and the illustrations, being first prints from the plates, and sometimes on better paper than is used for subsequent copies, are misleading to the public.

The experienced agent coming into a community maps out his campaign with keen discrimination. He knows which class of people to visit first, and the means to employ to secure their names as a start. Having secured a few of the proper sort, his ever growing eloquence will induce others to believe that he has the one book which they "long have sought—the greatest literary work of the century, or indeed of the world's history." And the credulous public subscribe, and in due time the book is delivered and the agent and publisher both made happy by the transaction.

This method of selling books is quite common in America, and is also practiced to some extent in England. There, art works, and scientific books especially noted for the cost of their illustrations, are frequently published and sold in this manner, the excuse being that the publisher and author must be reasonably insured against loss before the venture can be made. The argument is a good one, and no real objection can be urged in such a case. But when the business is organized with large capital for the express purpose of manufacturing books to sell, regardless of the real wants and needs of the public, as is so often the case in this country, the duty of the public in relation to the business becomes a serious question.

Selling books by subscription is often commended on the ground that large numbers of people, who would rarely purchase books through the trade, are thus induced to buy and read them. The book agent is thus represented as a beneficent angel who carries light and intelligence into dark and neglected corners of the world, and not as the object of deserved gibes from the public, as the comic newspapers would have us think. And yet it must be apparent to even an ordinary observer of our literature that not much that has been of real permanency has ever come before the public in the form of the subscription book. What does the book so prepared imply? First, that its own merits will not sell it; but that it will require the persuasive work of the solicitor to induce you to buy it. Second, that the price has been so fixed that the publisher can allow the agent 40 or 50 per cent on the sale, pay a royalty to the author or compiler, pay for expensive circulars and prospectuses, and still make a large profit on the transaction. With comparatively few exceptions, these books are of temporary interest, and do not become a part of the real literature of the country. The literary men and women usually find a market for the products of their pens through the regular book trade and the old established publishing houses. The sale of their works through soliciting agents would be repugnant to them.

An examination and contrast of the two classes of books on the basis of mechanical excellence will nearly always result in favor of the books sold through the trade. Of course there are books in the latter class that are "cheap" and undesirable from this standpoint, but the newer books, copyrighted editions, are mostly superior in paper and illustra-

tions to those sold as subscription books. The paper in these is often a heavily sized variety well calculated to lead the uninformed into the opinion that it is of a superior quality; but it is decidedly undesirable to the people who buy books for a permanent place in the library.

The sale of books by subscription is one of the causes of the present general depression in the book trade, but not as prominent a cause as booksellers suppose. The class of books usually sold in that way can hardly be considered as coming into competition with the regular trade. We should except the cyclopedias from this statement, for here there is undoubtedly competition. And yet who would be willing to say that any of the subscription cyclopedias can compare in absolute cheapness, when the excellence of the work is considered, with Chambers' Revised Encyclopedia, which is not sold by subscription.

A RARE INSTRUMENT.

BY PROF. A. B. BROWN.

IT was my good fortune, when in Kansas City, to see a remarkable double or contra bass, of great excellence and of interesting history—the only one of its kind in this country, and now in the possession of Mr. J. H. Andrews, of the Coates opera house orchestra. This instrument is a curiosity, and attracts many visitors. It is of the three-quarter size, old in appearance, not handsome, and when compared with a modern instrument it seems small and inferior. It was made about the year 1600, by Gaspar de Salo, who was born in Salo, Italy, about 1550.

He is credited with having given to the violin, the viola, and double bass their present shape; no modifications of form or proportions have been made since his time. Many of his violas and a few double basses may yet be found in Europe, but only three of his violins are known to be in existence at the present time. One of these noted instruments was the famous violin used by Ole Bull on his last concert tour through the West, which was handled and played upon by my brother, who said its tone was of wonderful power, sweetness, and brilliancy.

On examining this instrument of Mr. Andrews, more closely, we find that the body measures forty inches in length, about four inches shorter than the one used in the College orchestra. It is a little greater in depth and less in width. The sound holes are shorter, narrower at the center, and run parallel; the left one is the longer and narrower. The left-hand side of the instrument is larger than the right-hand side, and the swell of the breast is also greater on the left side. The scroll seems clumsy, about two inches longer than the present style, and was made for wooden pegs, which have been replaced by hand-filed screw pegs.

The breast is made of spruce, the ribs and swell back of sycamore of exceeding fine grain. The edges do not project as in modern instruments; the curvatures at the center are much shorter; and the joints are nearly square, glued, and also fastened with fine nails.

There are many things about this instrument which would detract from the maker's reputation as a skillful worker in wood; but the varnish which covers it is a marvel to all who see it. It is of the same dark reddish brown color—almost as fresh and bright as when applied—which characterize the genuine Cremonas of that date. "It is the same kind of varnish, apparently, as is found on my brother's Amati, and my own Stradivarius," I remarked. At the mention of these instruments, Mr. Andrews warmed into new interest, and became very communicative. "The real value of this instrument can hardly be estimated," he said; "there are only a few in existence, and they are in Europe and cannot be purchased."

"Dragonetti, one of the world's greatest bass soloists, used one, and shortly before his death he was offered \$2,500 for it, but refused to sell it. The almost unanimous verdict of the world's greatest bassists is that Gaspar's instruments have never been equalled. This instrument is about three hundred years old, and one hundred and twenty-five years of this time it was hidden away in a convent, when it was found and presented to Mr. Storch, Mr. Butler's teacher while in Europe. After his death, his widow presented it to Mr. Butler, and forwarded it to Boston. In the fall of 1889 I went to Boston to study under the direction of this same Mr. H. J. Butler, a member of the Boston symphony orchestra and America's greatest bassist. He then had the instrument in his possession and allowed me to practice upon it. I fell in love with it and determined to have it, but Mr. Butler refused to part with it, as it had been presented to him. I remained in Boston a year longer, and practiced so faithfully and made such progress that I became his favorite pupil. My entreaties were so urgent and persistent,

that finally he yielded and allowed me to bring it west with me."

"May it speak to me?" I said. "Oh yes!" he replied, and receiving the bow from his hand, I drew it gently across the strings. The thrill of pleasant surprise I will never forget, as the liquid, mellow tone gushed forth at the first quiver of the strings.

THE SATISFACTION OF ACHIEVEMENT.

BY H. K. BROOKS.

IN every pursuit of life there are times of failure. Still I believe that the disappointments are more than compensated for by the pleasure and satisfaction that come from achievement. The student has his moments of satisfaction; and no one can describe those moments. When a difficult problem has been solved or a hypothesis demonstrated, a satisfaction and pleasure steal over him that cannot be created by any hope of reward or monetary gain. The orator, who has "soared on the wings of eloquence," regards not so much the applause of the populace, but rather is satisfied that he has accomplished his purpose and performed the task satisfactorily which he set out to do. Not only in the professions are there these moments of satisfaction, but to the diligent and studious they come in every walk of life. Who can estimate the satisfaction and pleasure of the housewife as she rests and surveys her house "set in order," or has the consciousness of work well done?

In no pursuit, however, I believe, is there more of these moments than in the mechanical arts. When every detail of a huge engine has been accurately fitted and the motive power applied, the wealth of the Indies could not produce in the soul of the engineer or inventor such an ecstasy as is his, when the ponderous machine moves off, each part working with the other in perfect harmony and motion. Nearly all mankind is attracted by machinery. From childhood up, there is a certain fascination in exploring the mysteries contained in clock and watch, and many such, as well as other machines, have suffered for want of mechanical skill to aid in this research.

"Something accomplished, something done." Can there be any greater satisfaction than this? The life of the man who loves his profession is full of these events, but the man who works at his calling for mere gain knows nothing of the joy that comes from achievement. Not everyone who likes to see machinery can share in the pleasure of the mechanic, as the details under his brain and hands are finished to dimension and scale, waiting for that supreme moment when the many parts will make one grand whole. If there is not a love for the work one chooses for his occupation in life, successful achievement cannot be expected. Watt, Stephenson, Morse, Edison, Newton, Locke, Darwin, Huxley, and others worked not for gain alone, but with the supreme desire to achieve. Had they not been dominated by this desire, the world would have been poorer today. If we work for this end, when success comes, be it soon or late, the satisfaction of achievement will be ours.

HOW MY COLLEGE TRAINING HELPED ME IN THE KITCHEN.

BY GRACE SECREST, '96.

IF any of you have been left motherless for a season you have surely realized the almost absolute necessity of knowing something of household economy. I certainly realized the fact this summer when mother left for an extended visit to the western coast, and left me, in part, house-keeper. Then it was that I was impressed with the true worth of the work we performed in the Kitchen Laboratory, under the supervision of Mrs. Kedzie; and also of the lectures on Household Economy, delivered by her in the classroom each morning.

To bake good bread and pastry, to prepare a delicate dish of any kind, or, in general, to cook an edible meal, is an art that is acquired by experience and study, just as much as to become an expert musician demands practice and special application to that art.

We learned that to be a good cook requires "much tasting and no wasting," and Shakspeare says: "The best cooks are those that lick the most;" so our tasting may surely be forgiven us. We were taught how to make the best yeast, bake the best bread, and the best mode of putting together the constituents of a cake or any other form of pastry. Under our instructor's direction, we flavored the soups and fried the doughnuts and prepared the vegetables for the table.

We learned not only how to set the table nicely, but also how to be waiters. When we served in this capacity we were stationed where we could best see when any particular thing was desired, and attended to this want as quickly and quietly as possible. We brought to the table the different courses as they were to be

served, and it was not long ere we discovered that waiting upon the table was also an art acquired by experience.

Good food, properly prepared, is conducive to the health and good spirits of every individual, and here in our own College, in the Kitchen Laboratory is just the place to acquire a knowledge of household economy.

The Beautiful in Farm Life.

There is some danger that farmers may become so intent on making their lands pay a money return that they will lose sight of much that is beautiful in country life. It is not all of life to be able to say at the end of the year that there is a good margin on the right side of the farm account. This is all right, of course; we are on the farm as a business. We ought to use our best effort to make it pay. But it will not do to make money the sole object of our labor. This is especially true if we have children. To bend every energy from daylight to dark, from week's end to week's end, and from one year's beginning to another to the getting of money, is demoralizing to the farmer, to his wife, and doubly so to his children. Life's beginning is a most important era. If to the young it be clouded by the gloom of a home where the only object in living is to get money, the shadow rarely ever lifts. The whole life will be tinged with the memory of those early days upon the farm.

That is one great reason why so many leave the farm. Their lives in the old home were a ceaseless grind, unrelieved by anything which touched the tender side of nature. What, then, should we do to remedy this? Suppose the house is old and you are not able to build another. Beautify it as much as you can. Set out trees around it, clear away weeds, tumble down fences, and all unsightly objects. Let grass grow fresh and green about it. Plant flowers in pleasant places. And so all over the farm. It will cost only a little time to make it look beautiful. Inside, make the house homelike. Have books and papers; music if you can afford it; at eventide let there be an ingathering of all the children. Read aloud to them, and have them read also. Be one of them, and have a share in all that interests them. Study nature with them.

How many know the names and habits of the birds which flit about in summer? Who of us can tell the names of the flowers which spring up everywhere on the farm? This may seem to some farmers all "nonsense." From such a decision I most earnestly appeal. The little lives intrusted to us are the most precious of all God's gifts to us. It lies in our power to dwarf them or help them unfold and reach heights of success we ourselves may never attain. We have no right to entail upon our children the heritage which many parents do when they teach them to hate farm life. There is no place on earth which is nearer to nature's heart than the farm. We ought to love it and teach our children to love it, too. Farm life pays if it leads him who follows it one step higher than he was at first. No matter whether he die rich in money or not, if at last our friends can say of us that we loved nature's God and pointed the way up to him. —Colman's Rural World.

The Farm-house Lawn.

In none of her gifts has nature been more fortunate in the union of utility and beauty than in the grass family, that belts the earth in living, restful green. Grass protects the soil from the sweep of winds and the denudation of storms, affording a yielding, velvety mat at once agreeable to the pedestrian, while protecting from mire.

The growing custom of an open lawn is hospitable in appearance, and adds new charms to rural homes. A writer in the *Ladies' Home Journal* thus sets forth the delights of the lawn:—

"Nothing adds so much to the attractiveness of a country house, be it large or small, a neat well-kept lawn. It is the setting of the home, and without it every thing seems incomplete. It is a picture without a frame. The picture may be very lovely, but until the frame is added we are not satisfied. I have seen some houses that needed only a small lawn to make them seem almost perfect. Without it they gave one that sense of being unfinished, which always detracts from our enjoyment of anything. About many country homes I see great flower beds, brilliant with color, but none of that velvety green sward which is so beautiful in itself, and which adds such a charm to the humblest cottage as well as the costly residence, and I wonder if their owners understand what a mistake they are making in giving up all the ground to flowers. Flowers are beautiful, and no home should be without them, but they should never crowd out the lawn. Its cool, refreshing color rests the eye and gives an air of repose to the place which is eminently homelike in its influence. Passers-by often pause to look at it and say, 'How pretty it is,' while the brightest bed of flowers would fail to attract their attention. A few good shrubs are desirable additions to a lawn if there is room for them, but flower beds scattered about it detract from its beauty instead of adding to it. There are lawns and lawns. Some evolve themselves, but these, while better than none at all, are never satisfactory. They always lack that depth and richness of soil which is to a good lawn what the pile is to velvet. The only way in which a really fine lawn can be made is to begin properly and work along proper lines until you have that thing of beauty which will be a joy forever, if it is given proper care."

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Prof. Jones takes the air on a new spring frame Sylph bicycle.

Editor Allen of the *Nationalist* was a caller at College Monday morning.

Many delegates to the Epworth League Convention, in session at the Methodist Church, find their way to the College.

Miss Mary Limbocker, of Fort Scott, accompanied by Miss Spaulding, of Manhattan, were among the visitors of Wednesday.

Mr. and Mrs. Frost of Topeka, were shown the College on Monday by Mrs. Houghton. Mr. Frost is editor of the *Topeka Lance*.

Mrs. McMahan, of Elwood, Ind., in company of her daughter, Mrs. Kirkpatrick, and her brother, Capt. J. T. Smith, of the city were pleasant visitors at Chapel on Monday morning.

The snowstorm reported from New York causes a fuller appreciation of the fine Italian skies under which Kansans live in these October days, and the beauties which they will probably enjoy for two months to come.

Dr. Joseph Denison, of Topeka, President of this College from 1863 to 1873, and one of its organizers, led in Chapel exercises Tuesday morning, and afterwards addressed the student body in words of congratulation. The struggle of the College in early days could be barely hinted at in the few minutes at the speaker's disposal, but enough was said to cause the student of today to appreciate the advantages under which he pursues his studies, diligent effort bringing surely the crown of success. Two dinner parties in honor of Dr. and Mrs. Denison were given during the week on College Hill at Mr. Richard Kimball's and at Mrs. Goodnow's.

The third lecture in Prof. Will's course in Economic Science was given to an attentive body of students and a goodly number of visitors yesterday afternoon. With a distinct recapitulation of the previous lecture, the next step in the study of wealth was announced to be the somewhat difficult one of value. Two prominent phases of the question concerning the two bases of value; viz., usefulness and labor cost, were both shown to be insufficient to explain the phenomena of value. Clear illustrations of the problem of value and of usual methods of deciding the market price were given, while immortal fame was promised to the one who should devise a just and practicable method of establishing value.

The Ninth Annual Report of the Kansas Bureau of Labor Statistics contains a twenty-seven-page write-up of this College, which introduces the institution with these significant sentences: "Whatever may be feared of certain tendencies of the school system of the State, and especially, too, with regard to its high schools, Kansas has at least one institution which offers the laboring classes a liberal education that leads toward instead of away from the farm, the shops, and the store. This institution is the Kansas State Agricultural College at Manhattan, the largest and the best attended school of the kind in the United States. A report on the condition of labor and laboring classes would be incomplete without some reference to the history, endowment, resources, course of study, methods, and aims of this high school of the people."

About 7:30 Friday evening conveyances of every description from single rigs to busses, holding a dozen or more, could be seen going from place to place in the city and filling up with jolly crowds of Juniors. Once under way, however, they all went in the same direction. They were going to the class party given at the home of Misses Mary and Josie Finley by the eight College Hill classmates of '96. After all had arrived, including two young men who are said to have lost the way, and pleasant greetings exchanged, an excellent program was rendered by several members of the class. The toasts, "Our College Hill Classmates," "Our Class Emblem," and "The Class of '96," testified to its loyalty and patriotism, and were interspersed by selections of music, both vocal and instrumental, which showed that the class was certainly not lacking in musical ability. Following the program came a game which demonstrated on the part of the boys their knowledge—or lack of it—of the size and appearance of the ladies' hands. The ample and dainty refreshments indicated that the College Hill girls had not practiced cooking in vain. Twelve o'clock came all too soon, but it was remembered that lessons and work could not always be neglected, even when "Profs and Preps were not allowed," so all departed, fully convinced that College Hill hospitality was something that should long fill a happy corner in memory's pleasant storehouse.

GRADUATES AND FORMER STUDENTS.

I. Jones, '94, is teaching the home school at Ada.

May F. Harman, '93, is teaching the home school near Valley Falls.

J. B. Brown, '87, is Superintendent of an Indian school at Ponca, I. T.

W. D. Baird, First-year in 1889, is now practicing medicine at Kasoma, I. T.

Wilber Otten, of Granite, Colo., student in 1887-8, is visiting his brother in Fourth-year classes.

E. C. Pfeutze, '91, finds the library of much interest and use in his frequent visits to the College.

M. V. Hester, '94, after putting in 200 acres of wheat, is teaching the school in his own home district.

M. Chandler, student in 1891-2, is visiting at College today with his brother C. A. Chandler, Third-year.

Frank Baxter has been placed on the extra list of Rock Island telegraphers, and is now at Smith Center.—*Mercury*.

Mrs. Winfield Brown-Burtis, of Fredonia, Third-year in 1887-8, is visiting with her two children in the family of Assistant Burtis.

W. D. Gahan, Second-year in 1890-1, is at home near Manhattan after clerking for about a year in an Abilene drug store. He visited College yesterday.

F. A. Thackrey, Second-year in 1891-2, teacher in the Indian school at Sac and Fox Agency, I. T., is spending his vacation at home in Manhattan, with frequent visits to College.

F. H. Avery, '87, spent a few hours in looking over Science Hall and the other improvements about the College on Tuesday last. He thinks this is a bigger institution than it was in 1887.

E. C. Thayer, '91, is Principal of the Indian school at Pawnee, Ok. He writes that since he has attended other institutions he appreciates more than ever the good, honest work done at his Alma Mater.

Geo. A. Browning, Third-year in 1891-2, writes from Kingfisher, Ok., where he is foreman of a tin-shop, that he finds much practical use for his training in mechanical drawing at this College.

C. Beech, of Havensville, student in 1890-1, visits the College today. He is a delegate to the Epworth League Convention in Manhattan. His brother, F. Beech, student in 1891-2, is farming near Dover, Oklahoma.

Cards are out announcing a double wedding at the residence of Mr. and Mrs. G. W. Romick, on Tuesday, Oct. 23rd. The contracting parties are Rev. John W. Edgar, of Lamar, Kans., and Miss Agnes Viola Romick [93] and Clarence A. Chandler [Third-year] of Argentine, Kans., and Miss Winnie Luella Romick [94].—*Mercury*.

A. D. Rice, '92, is President, W. E. Smith, '93, Vice President, and Delpha Hoop, '92, Treasurer, of the Riley County Educational Association in session today at Manhattan. The names of Prof. Olin, Elizabeth Edwards, F. W. Ames, Delpha Hoop, W. E. Smith, and Mary Lyman appear on the program, with Mayme Houghton and Elsie Crump as Committee on music.

Echoes from the Music Rooms.

The enrollment in the Musical Department for present term in all classes is 232.

The number enrolled in the vocal classes is 117, divided as follows: The class which meets at the fifth hour on Tuesday numbers 28. The class which meets at 1:30 P. M. on Wednesday numbers 34. The class which meets on Thursday at 1:30 P. M. numbers 55.

The number of pupils enrolled in the instrumental classes is 115, with the following assignments: To the piano classes, 32; the organ, 11; the guitar, 13; the mandolin, 6; orchestral instruments, 23; band instruments, 30.

The College orchestra has a weekly rehearsal on Wednesday at 2:30 P. M.; assists daily in the service of song at chapel exercises, 8:30 A. M., and contributes one selection or more at the public rhetorical exercises on Friday afternoon.

The Cadet Band, division "B," has a rehearsal on Monday and Wednesday at 2:50 P. M. Division "A" has a rehearsal at 3:50 P. M. on Tuesday and Thursday; also contributes a prelude to the semi-monthly public lectures. Other members of the Music Department contribute occasionally to the completion of the musical programs of other College exercises.

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emeline Pfeutze; Board of Directors, Laura McKee, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembly, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. L. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Seare; Correspond-

ing Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

October 13th.

W. A. Coe began the Hamilton program with an interesting essay. "Death" was discussed in an oration by W. O. Peterson. Debate, question, "Resolved, That success depends more upon individual efforts than natural endowments." C. A. Chandler and M. L. Heckert upheld the affirmative, their arguments being disputed by E. Emrick and Wm. Poole. Both sides were ably argued, showing the speakers thoroughly understood the question. Society decided in favor of the affirmative. An interesting trip through the interior of Oklahoma was described by C. K. Peck. Music, E. B. Coulson, accompanying himself on a guitar. All the late happenings of importance were reported by newsmen, C. S. Evans. Recess. Under discussion, C. F. Ginter described the "Automatic Air Brake." As the speaker was prepared with models and plans, and above all several years' experience, it made the discussion very instructive. W. W. Hutto, '91, gave the Society a cheering address, in the course of which he eulogized the Society's namesake. Under extemporaneous speaking, the advisability of adopting a College uniform was discussed. Adjournment. E. C. J.

October 12th.

The program of the Alpha Beta Society was opened by a violin solo by R. W. Clothier. Prayer by Inez Palmer. Miss Kate Zimmerman, Miss Maude Mannen, Mr. Graves, and Mr. Peabody were initiated. Select reading, Mary Paddleford; declamation, Cora Mackrey. The Society was next entertained by a song from Miss Fryhofer and Mr. Conrad, the latter accompanying on the guitar. The debate was on the question, "Resolved, That the running of all Sunday trains should be abolished." The affirmative was conducted by Geo. Fryhofer and Alice Shofe, the negative by Mr. Powell and Kitty Smith. The debaters had the question well in hand, and the fact that they were themselves interested made their remarks all the more attractive to the Society. The judges, Ernest Smith, Stella Kimball, and Guy Hulett, gave their decision two to one for the affirmative. The Gleaner, W. H. Phipps editor, was chiefly devoted to Oliver Wendell Holmes, the last of our great American poets to pass away. This tribute to the memory of the great autocrat was varied by selections from his poems read by various members of the Society, and illustrating the character of his writings. The time after recess was spent wholly in the transaction of business. Adjournment.

J. B. S.

October 13th.

Half past seven found the Websters seated and prepared for a quick and interesting session. Necessity compelled an early adjournment, for, alas! Fourth-year parties come but few times in the college life, and already the quick eye could detect here and there a drowsy Senior. J. C. Wilkin led the Society in devotion. Three new members were received into the Society. The question for debate, "Resolved, that drill at this College is more beneficial than a well organized athletic club," was argued affirmatively by T. M. Robertson and W. B. Chase, and negatively by E. L. Brockway and G. F. Lechner. The question was argued on the grounds of the superiority of the athletic training in drill to that of interesting but more dangerous skill sought for in general athletics. The Society decided in favor of the negative. L. W. Hayes sang "My Home's the Sea," responding to encore with the last verse, which he kindly informed us had been saved for that occasion. The news by Steuart Morse was equal in completeness to the brevity column of a daily newspaper and was justly appreciated. A discussion on the subject of flying machines by E. H. Freeman gave that gentleman a welcome chance to promulgate some of his own ideas on the question, while his graphic description of Maxim's flying machine and its adventures, roused even the sleepy Senior from his snooze. After the program regular business occupied the attention of all until adjournment.

October 12th.

When Vice President Wilkin called the Ionian Society to order at the usual time, every chair was filled, and it was necessary to find more seats for those who came later. Congregational singing was followed by prayer by Flora Waugh, and the roll-call, to which a large number responded. The program was opened with a vocal duet, "In the Starlight," by Louise Spohr and Flora Waugh. Owing to the illness of our grumbler, Sadie Stingley next favored us with guitar music, seconded by Ida Walters. The Oracle, edited by Wilhelmina Spohr, had for its motto, "Be sure you know beans when the bag's open," and this was well discussed in the editorial. Some comments on "Sweet Marie," "A scene in the President's Office," "Drifting," Systematic Housekeeping," and "The Third-years," were some of the things the paper contained. This was followed by a piano duet by the Misses Leicester, who responded to an encore, and after this Mabel Selby gave a toast to the new room. An unusual feature on the program was a guitar solo from a gentleman visitor, and in response to a hearty encore, Mr. Buck gave us another selection. Dr. Mayo was among the visitors and the opportunity of having him give us a talk was too rare to let pass; he urged us to give some one a good time whenever possible, and to look on the bright side of life. A parliamentary quiz by Ary Johnson was followed by a vocal duet by Jessie McClurg and Mabel Selby, with Tacy Stokes at the piano. This closed the program, and after the usual routine of report of committees, business, and roll-call with quotations, the Society adjourned. E. E. N.

Success Won on a Farm.

Mr. T. B. Terry, a writer on farm topics known to every reading farmer in the United States, was recently asked this question:—

"Would you have succeeded in making your farm what it is, with its surroundings and buildings, and everything as comfortable as you now have, if you had to depend entirely on it from the time you started? Is not your success largely due to the fact of your receiving money for Institute and literary work?"

Mr. Terry's reply in the *Practical Farmer* should encourage every farmer to renewed effort. He says:—

"Yes, to the first question. No, to the last. The success was practically attained before I had any literary income. It was because I had succeeded that I was called on to write and talk. In 1881 my crops sold for \$2,545 from thirty-five acres. This attracted attention, and *The Country Gentleman* asked me to write for them in 1882. Before the year was out the *Ohio Farmer* called for some of my work. In 1882 my income from thirty-five acres was \$3,032. In 1883 it almost reached \$3,000, as I put in 24 acres of potatoes. In round numbers, I had about \$3,700 surplus during these three years from the farm to go towards improvements. Now what was my literary income during this time? Not a dollar until 1882. That year, *The Country Gentleman* paid me \$70, and the *Ohio Farmer* \$27. In 1883, I received from *Country Gentleman* \$80, and from *Ohio Farmer* \$56, and this was all my literary income during these years, except a prize of \$50 given me by the Ohio State Board of Agriculture.

"Now, my dear friend, people will talk as you have written. And it is true that I am giving most of my energies to writing and talking now, because there is call for it, and it is also true that I am well paid. But don't you think that after I had taken a run-down farm and brought it up to the above figures I could manage to get along without outside assistance? Why, bless you, this farm might be put way above its present plane. The possibilities of land are wonderful. I feel sometimes as though I would like to give all my strength to the farm for five years and let some one else tell of what I did. Would more good be done this way? What do you say? You needn't worry a bit about my income, in deciding."

Famous Farmer Boys.

There are some people foolish enough to laugh at the homely virtues of home life. But it is well sometimes to look at the list of great men who have been chosen by the people for the great offices of the nation. How many of them came from the farm, and were early in life familiar with wooded hills and cultivated fields!

The *Kansas City Times* says: "Nearly three fourths of our best men came from the tillers of the soil. For example, Lincoln, Grant, Garfield, Hamlin, Greeley, Tilden, Cleveland, Harrison, Hayes, Blaine, and many others almost as conspicuous in current events or living memory. Among journalists, Henry Waterson spent his early life in rural Kentucky, and Murat Halstead was born and lived on a farm in Ohio. W. H. Vanderbilt was born in a small New Jersey town, and early engaged in the business of ship chandlery. Jay Gould spent his early years on his father's farm in New York State. Whittier and Howells spent their youth in villages, the former dividing his time between farm work and studies. Follow out this list for yourself, and see how long it will become."

Cultivate Flowers.

While the residents of the country live in the midst of nature's adornments, they should not permit these to repress the cultivation of those things that minister to our higher tastes.

Within a few years the use of flowers has grown enormously. Every occasion from the cradle to the grave is marked by evidence of this kind. Very often the relations between two persons are such that flowers are the only thing that may be sent with propriety. They may represent large value, to be sure, but a value that is entirely lost with their rapid fading. The same money put into an article whose value would not be so fleeting would never be sent by a cultivated man or accepted by a refined and right-minded woman. It may be laid down as a general rule that it is always in good form to send flowers to any one with whom pleasant, friendly, and social relations exist. On the other hand, it may be said with truth that flowers are rarely other than acceptable. —*Ladies' Home Journal*.

City Corruption.

Dr. Parkhurst, who has accomplished such a great work in bringing to light the corrupt practices in the city of New York, has returned from a rest among the Swiss mountains. He is again after the criminal element of New York, and his vigorous and energetic measures promise such a cleaning out of the rottenness as that city has not known in many a day. His efforts seem to have been a stimulus to the Civic Federation in Chicago, which has just taken steps toward crushing out in that city the gambling element. Gambling rooms have been raided, and a number of their tables and devices to catch the unwary have been destroyed in the street. Our centers of population seem to breed all sorts of corruption. There is more to be feared from the corruption in cities than in anything else which threatens the liberty of the republic. —*Farm and Fireside*.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The new Topeka high school building is complete with the exception of a few minor improvements, and Topeka has one of the finest high schools in the west. The seats have been placed in the assembly room and 600 pupils can be accommodated. Single seats are used instead of the old style double desks. The teachers of last year have been re-employed under Principal Hickman. An additional teacher in Latin, Miss Harriett Williams, has been engaged. Miss Williams comes from Dickinson high school, and has had several years' experience teaching in different high schools in this State.

President Taylor of the State Normal School reports that institution as now having the most successful year in its history. There are now enrolled 125 more students than at this time last year, and with the new wing they can accommodate half as many more than the present enrollment. The graduating class numbers one hundred members. The standard of scholarship is higher, as many of the students taking the teachers' course are college graduates and others are teachers of several years experience. The faculty at present numbers twenty-four. The biennial report to the governor, containing the budget for the next two years, has been prepared. An effort will be made to perfect arrangements by which Normal students will be exempt from paying the incidental fee of \$10 per year. All such fees have been abolished both at the State Agricultural College and the State University. This fee collected from the Normal students amounts to about \$8,000 per year, and the President thinks that the State Normal ought to be as free to Kansas students as the other educational institutions of the State.

The twenty-eighth annual meeting of the Kansas State Horticultural Society will be held at Fort Scott, Bourbon county, on Tuesday, Wednesday, and Thursday, December 11, 12, and 13, 1894. The sessions will be held in the courthouse, and will open at 10 o'clock A. M. on Tuesday, the 11th. The requirements of railroad companies are such that there is no reason for expecting other than regular rate of fare. A hotel rate of \$1 per day has been secured for the attendance, and free entertainment is not promised by the citizens of Fort Scott. A special committee will receive attendants at the depot on arrival of trains, and convey them to such hotels as each may prefer. An exhibit of new and rare fruits, and any of special merit, and especially promising seedlings of recent origin, is requested. All such will be carefully and critically examined by competent judges, and their opinions reported to the Society during the meeting. Fruits of unknown and incorrect nomenclature will receive the attention of expert fruit men for the purpose of determining their true names. This meeting promises to be one of the most interesting ever held, having been located near the border counties of our sister State, Missouri, and the date fixed to follow the annual meeting of the Missouri State Horticultural Society, so as to afford the horticulturists of each State an opportunity to assemble in convention for mutual benefit. Important topics relating to successful fruit culture will be presented and fully considered, and freedom in discussion will be granted to all in attendance.

After many heated debates in the meetings of the Board of Trustees, the Faculty, and the M. E. Conference, concerning the influence of foot-ball at Baker University, President Murin has finally declared the game as abolished at that institution. As a result, seven of the boys who were last year in the champion team of the west left for Ottawa to enter the Ottawa University. The departing boys were driven to the depot, followed by a large concourse of students, girls as well as boys. The carriages were draped in black, as well as several business houses, and a black flag floated from a college building. This now takes all the old foot-ball eleven from the University. Several were officers in the military department; several are seniors in the University. A number of the students have signified their intention of not returning next year, and many of the best friends of the school declare this to be a blunder of the worst sort. Yet, whatever may be thought about the game, it is certain that during the past two or three years Baker had allowed their team to make altogether too much of it. No student can devote himself properly to his studies, the legitimate work for which he attends a higher institution of learning, and at the same time train for contests the way the members of the Baker team have trained, make trips beyond the border of the State as they have made, and respond to challenges all over the country as they did. Such a course must be demoralizing to the whole school. The reaction had to come, and Baker is discovering once more that an ounce of prevention is worth a pound of cure.

Farming as a Business.

The life of a farmer has often been called a life of drudgery. There is no occupation that has a larger ratio of inspiring labor to one whose tastes are in harmony with rural life. The weak point in American farming has been the lack of appreciation of the equipments necessary to a successful career. Too many men have been willing to be thieves of the soil's resources that they might swell their bank accounts. To the young man or woman, fairly well educated, who will add some technical knowledge of our special schools of agriculture to their requirements, there is no more promising field of enterprise than farming; but to insure that satisfaction in its prosecution which makes any occupation enjoyable, business spirit must be put into it and toil must be sweetened by an appreciation of the attributes which make rural life attractive. —*Charles W. Garfield, in American Cheesemaker*.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. The *INDUSTRIALIST* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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THE NEW STEAM AND POWER PLANT.

BY PROF. O. P. HOOD.

THE question of how to keep College rooms comfortably warm during the changeable and sometimes severe, though short, winter weather is a very important one, and has been variously answered in different periods of the institution's history. Sometimes the answer has been a shivering one, and every winter has helped to strengthen the desire for a more perfect means. Wood stoves and coal stoves are still about the place, testifying to service done in classrooms in early times. For a number of years a steam heating plant has been in each of four of the College buildings. The addition of a large new building nearly the size of the main building would have required still another plant and a man to care for it; the service rendered by two of the old plants was very unsatisfactory; and altogether the conditions seemed to show the time was ripe for a general plant which should have a capacity for heating the whole institution greatly simplifying the attention.

The new steam plant put in by the State Board of Public Works will realize many of our desires for a more perfect heating system. The boiler house and power plant were placed in connection with the Iron Shop, the building being built on the same grade and in the same manner as had proved so satisfactory for the Iron Shop. The prime requisites of a good boiler house are plenty of light and ventilation and plenty of room above, in front of, and behind the boilers. It is a rare thing to find these necessities recognized, and too often a heating boiler is placed in some dark hole where proper attention is well nigh impossible. The foundation is of stone, the frame of iron, and the roof supported by iron trusses. The east and west walls are largely of glass windows which, with a ventilating sky-light twenty-five feet above the boilers, gives ample light and ventilation. Twenty feet of the north end of the building, which is forty feet wide and sixty feet long, is partitioned off as an engine room. In the boiler house are set five boilers aggregating 270 horse-power. There are eighty square feet of grate surface under these boilers, and from 700 to 1000 pounds of coal can be burnt each hour.

The chimney is 100 feet high above the grate surface and four feet in diameter inside. The steam is carried south from the boiler house to each of the three buildings—the Chemical Laboratory, Main Building, and new Science Hall, in a pipe starting seven inches in diameter and reduced to four inches beyond the Main Building. The steam, condensing in 10,700 square feet of radiating surface in the buildings, returns as hot water through a five-inch pipe into a tank placed in a pit seventeen feet below the boiler room floor. From this receiver the water is pumped into the boilers by a steam pump to again be sent as steam over the same round.

The expansion of such a long line of pipe due to heat is so much that it is necessary at intervals to make joints in the pipe that one end may slip freely while the other is securely anchored. The expansion between the Boiler House and the Library is about one foot, and is taken up in six expansion joints placed in walled-up pits where they can be reached. The pipes are laid in brick trenches covered with stone flagging. A six-inch steam line is also carried to the north of the Boiler House as far as the shops, and is to be finally run to the Armory. When the Armory extension is added and the necessary heating surface put in the Iron Shop, the boilers must furnish steam for about 15,000 square feet of radiating surface besides that required to keep the long lines of pipe hot, which is a considerable amount.

The piping is so arranged that any one of the boilers may be used at a higher pressure for running the power plant. It is planned to run a forty-horse power direct current electric generator by means of a fifty-horse-power engine, or by means of the old Atlas engine which has for years done good service in the Wood Shop. The Atlas engine will be changed to a fifteen-horse-power, and either engine can be used to run the generator, the smaller one usually, the larger only when the demand for power is beyond the capacity of the small one. Only the large engine is running now, the small one being repaired in the shops. The voltage of the current is such that it is not dangerous to life, although somewhat uncomfortable if one by carelessness receives a shock.

A twelve-horse-power motor placed in the Wood Shop gives even better power than did the engine. The ability to place the comparatively small motor

where desired enables us to greatly simplify the shafting, giving more room in the shop and arranging the tools in a better manner, at the same time saving some power. In the Iron Shop an eight-horse power motor displaces the upright engine formerly used. The Printing Office, 600 feet away, uses a five-horse power motor; and a ten-horse power motor will soon be running at the Farm Barn, 1,500 feet away. This, I am sure will be found to possess many advantages over the engine in threshing, feed-cutting, grinding, etc.

This same generator can also furnish lights when we are able to get them. We now light the Society rooms, and will soon light the Printing Office, using altogether about 80 lights. Now that the wires are at the doors of the Domestic Economy Department, there is talk of cooking by the subtle force.

THE STATE BOARD OF EDUCATION.

BY PRES. GEO. T. FAIRCHILD.

AN editorial query "How is It?" in the *Bethany Messenger* has this insinuation in regard to the State Board of Education: "As matters now exist, with the present Board it is well nigh impossible for any one to pass that examination, except those who are from such schools which have representatives in the Board. * * Is it fair that certain individuals shall have the power to dictate unreasonably to some and by virtue of their power show lenience to others?"

As the oldest member of the State Board of Education, having served for the past fifteen years, it becomes my duty and privilege to answer this query in all earnestness. There is no ground for the charge of favoritism. Prior to last year the great majority of those who received State certificates upon examination were not graduates of State institutions, and in no single instance have I seen the least shadow of influence for or against a candidate on account of his alma mater. I believe that an inspection of grades will show no variation for acquaintance's sake. Since the advent of the new law multiplying greatly the number of candidates for State certificates, the Board has taken the precaution to exclude all possible unconscious bias in examination of papers by the absence of all names of candidates and places of examination upon the papers, both being indicated by arbitrary numbers. Of eighty papers now under my inspection I cannot give the author of one, except that I remember having allowed the use of a type-writer in preparing one set of papers and might be able by effort to recall the author's name and location. Otherwise these papers are wholly impersonal.

The only advantages possessed by graduates of the schools represented in the Board of Education are such as arise from a limited acquaintance with the modes of thought, in certain lines of study, likely to be acceptable. This cannot be considerable, and if made a study by any candidate he is likely to so over-do his work in this direction as to meet obstacles in others. Moreover, the Board has taken pains to provide a manual for candidates, suggesting approved texts in technical subjects, and encouraging a broad preparation, which precludes narrowness in the examiners. Indeed, the prominent cases of failure within my recollection have been from lack of distinct individuality in thoughts expressed, rather than lack of conformity to any type.

Now, as to the suggestion that the Board may be a clique, it is enough to say that the members are well known to have very distinct individual opinions and interests quite precluding such a judgment. No one who has seen the Board in session could give utterance to such a suggestion.

Finally, if there has been at any time an advantage possessed by teachers from State institutions, it has arisen from the patent fact that students have in these some special facilities for technical training seldom, if ever, provided in the denominational colleges. The very noteworthy object of the colleges, to train for the ministry, limits the range of technical training. The main obstacle to adoption of an ideal normal course in such colleges has been the desire to keep in view the trend of the curriculum toward the ministry with enforced economy of machinery. The result is sometimes found to be a certain so-called culture with little training. This does not prove the culture less useful, but that it cannot at once do the work of training. The younger graduates fail in a test of training for a definite object. Especially is this seen in the niceties of presentative methods. I happen to see the work in drawing, a large part of which would scarcely be worthy of a

mere tyro. Yet drawing has been required for a State certificate these twenty years past, and every teacher knows its importance in presentation of thought, especially to children. The colleges must do such work in earnest.

I believe that jealousy toward the State institutions is misplaced. They are bound to succeed in certain lines of work which denominational colleges cannot do, from the natural limitations of their growth. The colleges have their mission, and will succeed along their individual lines if willing to recognize the work of other institutions. The more the people are educated the more room for every phase of higher education. Let us work, all together, against ignorance, each in his own earnest way without fear lest another is outstripping us. The colleges of the State may rightly seek a representative upon the State Board of Education through the appointment of the Governor, and should use their influence wisely.

"BOTS."

BY PROF. N. S. MAYO, D. V. S.

NEARLY every one familiar with horses has a rather vague knowledge of the larval form of the bot-fly (*Gastrophilus equi*), and the relation of these parasites to the horse which they infest, many and varied evils being charged to the influence of the "bots." If a horse dies from some unknown cause, the owner, armed with an ax and a butcher knife, holds a post-mortem examination. If the horse has been dead a few hours, he may find a hole through the wall of the stomach, and a number of "bots" being in that locality, he naturally infers that the horse's death has been caused by the "bots" eating a hole through the walls of the stomach, while the truth is that the "bots" are not to be blamed, the gastric juices of the stomach having digested a portion of the walls, after death.

The life history of the bot-fly is well known. The adult female deposits her eggs upon the hair of horses during the latter part of the summer and early fall. The first adult fly was observed upon August 24th of the present season, and they are still seen during the warm afternoons. The female, to an ordinary observer, resembles a honey-bee in size and general color, but is distinguished by possessing but a single pair of wings and a well-developed ovipositor. The eggs, or "nits," are deposited upon the hairs on various portions of the horse's body, but are especially numerous in the region of the fore legs and shoulders, often so thick over small areas as to give a decidedly yellow color. A single adult female deposits a large number of eggs. The fly hovers a moment over the spot where the egg is to be deposited; then, with a motion quicker than the eye can follow, the egg is stuck fast to the hair. The fly does not injure the horse, but the buzzing often annoys nervous horses considerably.

The length of time required for the eggs to hatch varies, according to different authorities, from four to twenty-five days. (I have been unable to hatch them at the ordinary temperature of the laboratory). One end of the eggs comes off, and extremely small, worm-like larvæ appear. These irritate the horse's skin, causing him to scratch the part with his lips and teeth. In this way the larvæ get into the horse's mouth, are swallowed, and then attach themselves to the mucus membrane lining the stomach, where they remain through the winter and spring until early summer. The larvæ attach themselves to the walls of the stomach by means of two hooks near the mouth. The mouth parts of the larvæ are so arranged that it cannot bite, but the hooks cause some irritation, and the larvæ subsists on the inflammatory products. The larvæ, or "bots," grow to be about three-fourths of an inch long.

It was formerly supposed that "bots" acquired their nourishment by absorbing the partially digested food from the horse's stomach through its body walls; but this view is erroneous. The larvæ, or "bots," remain attached to the horse's stomach until the following summer, when they loosen their hold and pass out with the waste products from the alimentary canal. They then bury themselves in the soil or manure and remain about twenty days, when they appear as the adult fly. Prof. Neumann states that they remain in the pupa state thirty to forty days. Those that I have observed require only about twenty days to develop.

It is during the larval stage, while attached to the walls of the stomach, that "bots" are supposed to cause so much trouble; and various remedies are given to destroy or remove them.

Reliable reports of sickness or death of horses caused by "bots" are extremely rare, and in all such cases the trouble has been purely mechanical, the "bots" being in such numbers and so located as to

mechanically close the opening from the stomach into the small intestines. When we consider that nine-tenths of the horses harbor "bots" for nine months of the year, we must conclude that the ill effects must be very slight.

There are many remedies recommended for the destruction or removal of the "bots," but a careful trial of most of them has proved them a total failure, and I have yet to know of a case where "bots" have been removed by remedies given for that purpose. I have placed "bots" in pure alcohol, and they have resisted its action for more than seven hours. They are more capable of resisting the action of medicines than the horse's stomach. Prof. Neumann says: "No medication can be recommended for their destruction or removal. The best treatment is prevention. Kill the adult flies whenever observed about the horses, and remove all eggs from the hair. They can be scraped off quite readily with a knife blade."

Dogs for the Farm.

Of all the domestic animals reared upon the farms of the country the dog is without doubt the most neglected, not merely neglected as regards food, shelter, and general care, but as regards breeding. We have of recent years made very rapid progress in the work of improving horses, cattle, sheep, and swine — although we fear that a retrogressive reaction has set in — but meanwhile the dog remains the same old yelping, yellow cur as of yore. He is a breed peculiar to the farms of this country; a mighty scavenger, to be sure, a fairly faithful watch, when at home (but he is usually at some one else's home), and as a general rule absolutely useless as a help unless in tracking coons and squirrels. The "yaller dog" of the western farm "lies low" during daytime and at night meets friends of the same persuasion in some neighboring slough, serenades the moon for awhile, then departs upon a foraging expedition that means dead sheep in many a fold. Such dogs are pests in any community, whether sheep are raised or not, and it is hardly to be wondered at that the owners do not feed them, but allow them to forage for their livelihood. Compare with these curs the canine tribe of Great Britain. With the exception of the "lap dogs of luxury," which are common in all lands, the dogs of that country are as carefully bred as our best horses and cattle, and moreover, have a purpose in life, either for sport or work among sheep and cattle. The sporting dogs of all breeds are fine in quality, sagacity, and "morals." The sheep dogs are world famed for faithfulness and instinct. It is a fact that in running a sheep breeding business here a well trained dog and one competent shepherd can accomplish more than twenty men could do without the dog, and let us ask how many dogs could be found here in the west able to do such work? It is very difficult to find a trained sheep dog in this country, although there are now quite a number of breeders of pure bred Scotch collies who are supplying first class pedigreed dogs. There is, of course, less work for trained sheep dogs in this country than in Europe, still in Wisconsin, Michigan, Ohio, and other States where sheep are numerous, good dogs are coming rapidly into use. But what we started out to say in this article was more particularly to advise that the subject of dog breeding should be given the attention it deserves throughout the country, so that he curs may be supplanted by well-bred, useful dogs, worth feeding and training. As it is the dogs of the prairie are a disgrace to all concerned and the sooner they are gotten rid of and a stock like that of Great Britain raised in the ir stead, the better will it be for all owners of live stock.—*Farmers' Review.*

The Agricultural School.

The agricultural school and college has passed the experimental stage and taken its place as one of the educational factors of the country. A young man about to select a school, without a design to study for a profession, should weigh carefully the claims of agricultural colleges, whether he intends to make farming his vocation or not, as the instruction given is of a practical nature which will be a help to him in after life. It is, of course, more important for the young man intending to make farming his life work to ground himself thoroughly in the science and practice of the vocation, and the agricultural school is his opportunity. There is a demand for more scientific farming in all its branches; also for teachers and writers to disseminate the needed instruction, and the school will produce them; for at the end of his course the graduate goes back to the farm imbued with a higher ideal of his calling. To his enlarged horizon it has risen to the dignity of a learned profession; he glories in his work, which in turn elevates and glorifies him. He will be anxious and ready to help his neighbors adopt new and better methods, an enthusiasm which will have a leavening influence.

The agricultural school has done much, and will do infinitely more, to bring farming up to its proper plane, a vocation worthy of the best and most intelligent effort of scientific minds. The teachings of these schools carefully applied will do much toward enabling agriculture to withstand, if not eventually triumph over, the depression it is now staggering under.—*Farm, Stock, and Home.*

FARM NOTES FROM VARIOUS SOURCES.

Roads should be made but once; they need repairing every year.—*Prof. I. P. Roberts.*

The painting of house and white-washing or painting of out-buildings, fences, and gates should be looked to and renewed as often as needed, for appearance's sake, as well as for the sake of preserving the wood.—*Indiana Farmer.*

The promptness of sale and prices obtained for fruits and vegetables always depend in a large measure on the style of package and manner of packing. Too much attention cannot be paid to this point by the shipper.—*Practical Farmer.*

As a general rule, farmers attempt to do too much, and do not always do it well. Farmers' farms are too large, and should be made smaller in order that there may be a better exhibition of husbandry. In some portions of our country farmers are apt to look too much after their fields and allow the weeds and grass to grow in their front yards.

Little things sometimes demand great attention. Rubbish heaps are breeding places and winter refuges for insects, as are also old rotten stumps, logs, and boards lying around the orchard and garden. Dry grass and weeds around the edges of the fields furnish them protection. All old, useless rubbish, together with their living tenants, should be rendered harmless by burning.

The city fathers provide shady parks and sheltered streets, but many a farmer plants his house in the open field and gives his wife and children not a single tree. Does he never long for the shade and the grass himself after his long stay in the sunny field? Let there be a thought to the beauty of it, if there is no sighing for comfort.—*Farmers' Home.*

The earth, like the good mother that she is, is a great stickler for the laws by which she governs her family. She insists upon feeding her children upon nitrogen, the element most difficult to obtain and the most expensive. She does not care whether it comes from plowed under green crops or from manures, but she must have it, or the plants die.—*Farmers' Home.*

A needless fence is not only an unnecessary expense but it is a waste of land, and a harbor for weeds and briars. A farm cut up into small fields increases the cost of cultivation. More work can be done in the same time and at the same expense in a long field than in a short one. Before commencing to build, rebuild or repair any fence, let each one ask himself if it is not possible to do without it.—*Farmers' Home.*

The average farmer "thinks" a bushel of his corn is making 10 pounds of pork, but his average bushel is making less than eight pounds. He "thinks" his methods are as good as any, but they are not. Weigh the hogs in the beginning; weigh all the corn which is given them; weigh each hog now and then; weigh all when through. In this way only can one be convinced whether he is right or wrong.—*Farmers' Home.*

Farmers are often careless concerning improvements which do not offer chances of early compensation. Farm buildings are too often entire strangers to paint. The matter of grading and seeding down a nice lawn, the planting of ornamental and fruit trees, the removal of unsightly litter to the back yard, these things of no small importance in themselves are quite generally neglected.—*Cor. Practical Farmer.*

Go to the fair or fairs in your vicinity. Have a good time. Get acquainted with your neighbors and exchange ideas. The fine stock and poultry, the magnificent specimens of grains and fruits, the delicate fancy work, and substantial products of the kitchen will stimulate you to greater efforts, give you more comprehensive views, make your home happier, and life more attractive. Try to see in the exhibits not merely beautiful objects, but products which you yourself may equal if you will.

Agricultural Colleges are the institutions best calculated to give farmers' children an advanced education. Boys and girls come home with eyes open wider and hearts better able to understand and appreciate the beauties of farm life, after taking a course in an agricultural college. The work of the dairy becomes a scientific problem that only the girls can solve, and farming is continuing the course in agricultural chemistry for boys.—*C. H. H. in Orange Judd Farmer.*

A recent pamphlet of crop statistics, published by the Department of Agriculture, contains an article on the rush of population from the country to the city, a tendency which exists all over the country. In Massachusetts seven times as many people live in the cities and towns as in the country. In Iowa, comparing 1880 with 1890, the cities and towns increased more than the total increase of the State, showing that there was an actual diminution of the agricultural population. In the South the urban population has gained 276 per cent since 1860, while the agricultural population has only increased 55 per cent.

Much has been said about advantages of farmers during these hard times. A correspondent of *Country Gentleman* says that a painter who had just finished a job for him said he did not know what to do next, wished he owned a farm or could hire one, for he had orders to go some hundred miles away to paint on a large house. He said board ranged from \$2.50 to \$5 per week; then there were some days when he could not work, and he had a family at home to support and could hardly make ends meet, to say nothing of laying up anything. His is only one case out of hundreds; and yet boys want to leave the farm to go to painting, carpentering, or standing behind counters in stores until ten or eleven o'clock at night.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address: E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Ed. Fritts, of Riley, visited College Monday forenoon.

Another large box of books is ready for shipment to the State bindery.

Mr. and Mrs. Ridenour, of College Hill, were visitors at the public hour yesterday.

The photograph social at L. R. Elliott's last evening attracted a large number of students.

A bursted steam pipe in the basement of the Main Building necessitates troublesome repairs today.

B. W. Conrad, Fourth-year, makes a flying trip to Minneapolis today to visit a classmate of last year.

C. B. Selby, Fourth-year, was called to Enid, Ok., last week to look after his claim, but returned on Wednesday.

The Kansas Academy of Science meets at this College December 26th, 27th, and 28th. The program will soon be announced.

The Schubert Quartette entertainment of Wednesday night was enjoyed by nearly all of the Faculty and many of the older students.

The College Cadet Band, under the leadership of Prof. Brown, serenaded the two newly married couples at Mr. Romick's on Tuesday night.

A thousand copies of a booklet giving hints on the organization of farmers' institutes have just been printed. A copy will be sent free to anyone interested.

Mr. W. C. Bailey of Baileyville, a well-known stockman, was a visitor on Monday. He spoke in Manhattan in the evening on "the issues of the day."

G. F. Lechner, Second-year, was called to his home in Wilson, Ellsworth county, Saturday last, by a telegram announcing the death of his sister. He was absent but two days.

The Fourth-year Class in Agriculture find their hands full in the tracing of pedigrees of thoroughbred cattle. The chief difficulty is to get a sheet large enough to hold more than eight generations without drawing on the paper makers.

The Kansas State Dairy Association meets in Topeka November 21st. The College is represented on the program by Prof. Georgeson, who speaks on "Dairying in Denmark," and Secy. Graham, on "Men Who Have Made Dairying a Success."

Mrs. Kedzie, Ethel Patten, Fourth-year, and Gertrude Lyman, Second-year, were delegates to the Young Women's Christian Association Convention held at Ottawa, last week. A profitable meeting was held. Mrs. Kedzie was elected President of the Association.

On the program of the entertainment to be given November 1st and 2nd by the young people of the Congregational Church appear the names of Pres. Fairchild, Prof. Olin, Prof. Hood, Mrs. Cavanaugh, Grace Clark, '93, Rena Helder, '94; and Mrs. White wrote the cantata for the children.

The savory odors coming from the kitchen these mornings tempt one to take possession, if not of the kitchen itself of the good things to be there found (among which may be included the inmates). Beginning next week, the Cooking Class will sample its productions in five-cent quantities to a limited number of students.

Cadet officers for the Fall Term are: Adjutant, A. Jackson; Quartermaster, G. C. Hall. Company A—J. V. Patten, Captain; W. H. Painter, F. E. Uhl, Lieutenants; E. Emrick, W. L. Hall, C. K. Peck, H. Thomas, S. Robbins, Sergeants. Company B—W. H. Stuart, Captain; G. W. Finley, Lieutenant; M. Wheeler, B. R. Hull, R. W. Bishoff, E. Shell-enbaum, Sergeants. Company C—F. R. Jolly, Captain; W. A. McCullough, Lieutenant; B. Kirkpatrick, W. B. Chase, D. M. Steele, R. R. Denny, M. L. Heckert, Sergeants. Officers and privates, 190.

The College Cadet officers, each accompanied by a lady, were entertained Friday evening the 19th, by Capt. and Mrs. H. G. Cavanaugh at their residence on Houston street. It is everywhere acknowledged that army officers are the best entertainers, and for this reason it is perhaps needless to say that although the Captain is master of the Science of Military Tactics, he and his entire family are also masters of the art of entertaining. The evening was one continuous round of enjoyment, and those present cannot soon forget the happy hours spent in this hospitable home. Those present were Misses Flossie Fox, Hortensia Harman, Ary Johnson, Susan Johnson, Maude Kennett, Phyllis Reese, Louise Stingley,

Cora Stump, and Flora Waugh, and Messrs. E. Emrick, A. Jackson, F. R. Jolly, W. A. McCullough, W. H. Painter, J. V. Patten, W. H. Steuart, and Mark Wheeler.

The Farm Department has just sold four Short-horn bulls—two to Mr. S. R. Jeffrey of Texas, one to Mr. A. A. Baldwin of Starr, and one to Mr. J. J. A. Keen of Clay Center.

Prof. and Mrs. Olin gave a farewell reception last evening to Rev. and Mrs. E. R. Drake, who leave next week for Denver, their future home—Mr. Drake to take up missionary work, and Mrs. Drake to practice medicine. Rev. R. M. Tunnell, who succeeds Mr. Drake as pastor of the Congregational Church on November 1st, remains at Wichita long enough to cast his ballot on the 6th, and Pres. Fairchild will preach in the morning of November 4th.

The third division of the Third-year Class occupied the public hour yesterday with declamations as follows: "Nobler Ideas," W. O. Peterson; "Immortality," Etta Ridenour; "The Last Omen," L. W. Pursel; "Man's Wants as Essential to his Progress," Inez Palmer; "America is Becoming Richer," John Poole; "The Saloon in Politics," W. J. Rhoades; "The Last Joy," Fanny Parkinson; "The Emblem of Freedom," E. A. Powell; "Crucial Moments in National Life," Grace Secrest; "Restraint," T. M. Robertson. Music was furnished by the College Orchestra, and by Gertie Lyman and Emilie Pfuetze in a vocal duet.

GRADUATES AND FORMER STUDENTS.

Mary Lyman, '94, attended the Baptist State Convention at Wichita last week.

Elizabeth Stingley, Second-year in 1889-90, is book-keeper for her father, a Manhattan grocer.

M. Chandler, student in 1892-93, came up from Argentine on Tuesday to be present at the wedding of his brother.

Marie Haulenbeck, Third-year in 1893-4, is a good clerk in Coons' shoe store. She plans to enter classes next term.

Bell Rehfeld, student in 1892-3, was thrown from a cable car in Kansas City last Tuesday, receiving severe injuries.

P. S. Creager, '91, has an excellent article on "Feeding Wheat" in the last report of the State Board of Agriculture.

L. S. Strickler, Third-year in 1890-91, sends greeting from California, with a catalogue of Pasadena Polytechnic Institute, which institution he plans to enter this winter.

D. C. McDowell, '91, Bertha Winchip, '91, and Elizabeth Stingley, Second-year in 1889-90, were delegates to the Y. P. S. C. E. District Convention at Holton last week.

W. H. Olin, '89, writes of prosperous school work at Osborne, with the attendance of the high school greater than ever before—over sixty. The College will no doubt gain some of this class next year.

R. K. Farrar, Third-year in 1893-4, of Axtel, was a delegate to the Epworth League Convention in Manhattan on Saturday last. He visited College friends and classes on Monday, and hopes to return to College next term.

Frederick J. Rogers '85, formerly Instructor in Physics in this College, now occupying a similar position in Cornell University, is the author of a text-book in physics which bears the title "Junior Course in General Physics," and is published by the Macmillans.

Mary Lyman, '94, visited College yesterday. She has thus far 67 subscribers to the *Ladies' Home Journal*, and hopes soon to be able to avail herself of the liberal offer of the publishers for musical training in exchange for a club. The merit of paper and solicitor should bring success to both.

The Riley County *Educator* speaks in terms of approbation of teachers Elizabeth Edwards, '92, Jennie Smith, '94, Elsie Crump, Third-year in 1893-4, Flora Allingham, Second-year in 1889-90, Elizabeth Perry, Second-year in 1886-7, Marie Blachly, student in 1891-2, Gertrude Hardy, Second-year in 1891-2.

J. W. Van DeVenter, '86, of Sterling, Colo., has an interesting article entitled "Applied Science" in the current number of *Sports Afield*. It relates how a graduate geologist when attacked by two Indians placed them *hors d'combat* with a couple of specimens he happened to have in his hands. One of the bucks "got it in the neck" from a deceptive "up-shoot," and the other was dropped by a hot "in-curve" just below the belt.

"Dislike for Manual Labor."

The Kansas City *Stockman* re-prints in full Miss Rupp's article with the above title, and comments as follows:—

"The *Stockman* heartily endorses the sentiments expressed in the above article. It is true, good womanly sense, from a woman's standpoint, and we only wish it could be heartily endorsed by all mankind; when perhaps we might be able with their influence to more manly men—and we might add with truth, more womanly women—physically, and, also, with its natural accompaniment, properly dispensed mental endowment. All our great men in their early days did not despise or shirk manual labor. It was that labor that lent them aid to pursue their mental studies and overcome obstacles which would otherwise have ter-

minated fatally. The great trouble now-a-days is that labor, as expressed in the above article, is looked upon as a disgrace—which shows a lack of good moral training in the home.

"How often have we heard parents say, I don't want my children to work as I have been obliged to do, which is all very wrong, and, in the child's hearing, gives him a false idea of labor; better a thousand times that the child at eighteen or twenty years of age was turned loose to do for himself and know what it is to earn his living by the sweat of his brow than to be pampered, sent to some institution of learning,—so-called,—acquiring a superficial knowledge of almost everything, in nine cases out of ten, which unsettles a young man for any kind of business whatever, only to try and live if possible without manual labor. Institutions of learning are well enough in their way, but our common schools can furnish to the average young man or woman all the education necessary in life—those that are really students are provided for and will naturally strive to get to the top; but the general masses want to attend a university more for the sake of the acquaintance and fun there is in it. Our smartest men and women are not made of that kind of material; but as a rule they are those that have had to combine good hard labor with their pursuit of knowledge, and the ones that are generally successful for the reason that practice and theory when combined is sure to solve all the problems of life."

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emilie Pfuetze; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembly, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Secrest; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

October 19th.

The Ionian Society room was filled before the hour arrived for beginning. The session opened with a piano solo, variations of "In the Sweet bye and bye," by Gertie Rhodes, followed with prayer by Tacy Stokes, and the roll call. Lucy Ellis was then elected to membership. The program, which was a musical one, was opened by a mandolin solo, by Mr. Correll, his sister Maggie accompanying him on the piano. Next was a vocal duet, "Night of Stars and Night of Love," by Emilie Pfuetze and Flora Waugh, and was followed by an original instrumental duet on the mandolin and guitar, by Hilda and Ida Walters. Rena Helder then entertained the Society with a vocal solo, Hilda Leicester at the piano. Flora Waugh gave a recitation, "The Message I Sent My Love," Rena Helder accompanying her on the piano and Harry Brown with his violin. Next was a piano solo by Miss Gilkerson, followed by a vocal solo by Emilie Pfuetze, and a violin solo by Miss Brockway. Fanny Hacker gave a piano solo, with the aid of Mr. Peters, who turned her music for her. Program was closed with a vocal duet, by the Misses Pfuetze. After reports of committees, business, and roll call with quotations, the Society adjourned. E. E. N.

October 19th.

In spite of other attractions the Alpha Betas, ever loyal to their Society, together with a goodly number of visitors, almost filled the chairs in the Society Hall. Gertrude Havens led the Society in devotion, after which W. S. Morgan and F. J. Rumold took the oath of membership. An oration by J. J. Fryhofer gave us some lessons from the teachings of nature. This was picturesque in description and full of good thought. Fannie Hackrey presented a review of Helen Hunt Jackson's "Ramona." A question of the day, "Did the cause of Korean independence justify the war between Japan and China?" was ably discussed by A. E. Ridenour on the affirmative and J. M. Westgate on the negative. W. N. Coffey read an essay on drill, a pleasing mixture of prose and rhyme which was especially interesting to those now undergoing the hardships of military training. After recess the Society was entertained in an organ solo by Miss Gilkerson. The Gleaner, Etta Ridenour editor, had for its motto, "The proof of the pie is in the eating," and the paper certainly proved a treat to our literary tastes. In an original story, Josephine Wilder told of the adventures of a search for flowers up the Blue. The Society business was then taken up and disposed of, after which all joined in singing a familiar hymn and went home feeling in the spirit of our motto, "Lente ced certe progredi mur." J. B. S. N.

October 20th.

The Hamiltons were called to order by President Barnett at 7:30 sharp. A full house responded to roll call. W. O. Peterson led in devotion. Under the heads of election and initiation of new members, F. M. Haise, J. C. Wolcott, C. Mansfield, M. R. Smith, G. F. Pickerell, J. W. Adams and L. Fitz were elected and initiated. The program of the evening was opened by a well-delivered declamation, "The Old

Engineer" by C. B. Ingram. Hargrave followed with a very enlivening essay on "Botany Hunting." C. Snyder entertained the Society with a select reading. The debate was taken up; question, "Are the goods of party government greater than its evils?" C. D. Adams and J. Poole supported the affirmative, while C. V. Holsinger and J. W. Holland championed the negative. The affirmative by a logical course of reasoning proved that without parties a stable government could not exist; that the strife inaugurated by one party against another kept politics in a purer state than could otherwise be. The negative, by a no less positive line of reasoning, proved that party politics as a whole was a gigantic monopoly; that politics legislates for the individual, not for the masses; that party politicians agitate measures solely to keep in office and for the party with no regard to the needs of the people, and as a remedy for the evils of party government offered a strong paternal government based on the needs, rights, and privileges of the individual. After recess Conrad and Norris favored the Society with music and responded to an encore. Next on the program was an oration, "Big I and Little You," by G. G. Boardman. "Whipping the Teacher," a select reading by E. Langhart, afforded an immense amount of fun. G. H. Dial discussed "Should Emulation be Encouraged in Education?" and C. S. Marty discussed "The Manufacture of Steel Pens." Under the head of unfinished business the furnishing committee reported progress, which was evidenced by the cheerful, home-like appearance Society Hall is taking on. Under extemporaneous speaking the honorary members were called upon to make a few remarks. T. E. Lyon gave a very interesting talk. R. K. Farrar encouraged the Society with a comparison of our earlier life with our present advancement. C. J. Peterson offered some advice as to the benefits of Society work. F. A. Thackrey made a brief address. Norris then talked a few minutes on the art of taxidermy.

J. W. H.

A Practical Farmer's Ideas.

The farmers who complain that farming does not pay rarely ever investigate the reason. If most of them would compare their manner of farming with those who do make farming a success, they would find their questions answered by object-lessons that would not only be convincing, but painfully mortifying to them that they need ask such questions. No business on earth will stand the neglect that farming does. Farmers complain that farming does not pay, yet those that thus grumble yearly furnish sustenance to a large family. At no other occupation could they furnish the supplies for their families if the operations were as loosely conducted as their farming methods are. A practical dairy farmer recently gave his ideas on farming on a postal card in competition for a year's subscription to his local paper in Kansas, and his suggestions are so brimful of good sense that they may be read with interest in any section, for his rules are applicable to all neighborhoods:—

"My experience is that farming, to be profitable, must be conducted on the most exacting plan of economy in every department, and I recommend the following: Study to have the work done in the best manner with the best labor. Good fences make peaceable stock. Keep the farm tools in repair and under cover. Don't let manure go to waste. Study the comfort of all farm animals, including the hog. A half-starved animal indicates the character of the farmer. Never allow weeds to get ripe. Look well after the weak animals; the strong ones will take care of themselves. A leaky roof means a rotten floor. The store-box is not a good place on which to raise a revenue. Trim up around the fence corners. Waste makes want, and want breeds discontent. A stunted calf or pig means a future loss of time and feed. Keep the harness in repair and well oiled. There is economy in ground feed. The loss on hay and other crops would pay for a good barn in ten years. Ground plowed in August and September is in the best fix for early spring work. Horses should be watered in the morning before feeding. Patronize home industry, and don't worry about the future."

Irrigation Coming.

Irrigation is by the very nature and character of the seasons being forced upon us as one of the scientific features of modern agriculture. If it is anything to us, it is more than seed, cultivation, and fertilizers all put together; for, with all these and no water, of what avail are they? The past two or three years have been trying years, and have taught us many lessons—lessons, too, that we can afford to remember; results that we cannot afford to forget. Let us bear them in mind, as men having results dependent upon the experience gained, but to be carried away by enthusiasm, as a lot of schoolboys at a holiday game.

We discover that we must save water; that we must have water within reach when wanted and nature calls for it. Get the thought impressed upon the mind. Water is essential to the land, essential to the production of the crops, and must be forthcoming for them, just as corn, hay, and other food and fodder are for stock at the seasons of the year when nature fails to produce them. Where we are to get it, how and where to store it, must be left to the genius of the farmers themselves. It is an easy matter to dig space for ponds, to dig wells from which to get the water, to get windmills or steam engines with which to elevate and store it in our ponds or cisterns. Dozens of plausible methods will be presented to the

public directly, having in view the selling of a machine capable of doing something or other of the irrigation kind, much after the fashion of machines of other kinds of the long ago for the acquisition and use of which nearly every farmer mortgaged his farm and beggared himself. Bide your time, dig your ponds, and see what can be done.—*Colman's Rural World*.

Plant Trees.

Plant first an abundant and diverse supply of fruit trees for home use, for there is as much profit in this as in those planted for sale, but plant neither unless you intend to cultivate and feed them. It is useless and wasteful to do otherwise. When about to put out fruit trees, do not wait for some lying agent to come along and tell you what you want, and ask you a high price for them, but study trustworthy catalogues and search out the best varieties, and send for them. Neither is it policy ever to buy seconds, even for the sake of saving a few cents; they take up as much land, grow more slowly, and amount to less in the end.

The city fathers provide shady parks and sheltered streets, but many a farmer plants his house in the open field and gives his wife and children not a single tree. Does he never long for the shade and the grass himself after his long stay in the sunny field? Let there be a thought of the beauty of it if there is no sighing for comfort.

Oaks are hard to transplant, but the pin oak and swamp oak are exceptions. Nearly all birches and maples are easily removed. Set them about the doorway and for shade in the barnyard, that they may lend an air of thrift and foresight to the home. While at it, place some of them that they may grow in a convenient place and order for the swinging of hammocks for the children.

You may not live to cut the wood, but plant an acre or more of timber on your farm every year, anyway. It will make an annual increase in the value of your place. In twenty-five years an acre of timber, if of the right varieties, can be made to equal in value an ordinary fifty-acre farm. Select kinds suitable to your latitude, plant eight feet apart, give clean cultivation, and do not thin out until there are some fit for use.—*Connecticut Farmer*.

What Constitutes a Farmer?

Is the man a farmer who plants a piece of potatoes and then lets the weeds grow so that the passer-by can't tell which he is trying to raise, weeds or potatoes? Is the man a farmer who keeps one cow and two old horses and does nothing but ride? Is the man a farmer who leaves his sleds and carts in the door yard to rot?

Not every man found on a farm is a farmer any more than every man on a building is a carpenter. Some men can drive nails if they have someone to show them where. Just so with farming. Now, this class of men is neither mechanics nor farmers. They are not a success, at anything and they are the ones that grow loudest. There are but few really successful men in any business, and the man that puts the same effort into farming that he must into any other business to succeed will have no reason or time to complain. Some think if they have a farm everything grows without effort or care.

If a man works by the day, he must be on time and stay until the day is done to get pay. Just so with the farm. Give a good square day, and don't think it lonesome drudgery. Make your home pleasant, and when the wind is howling around your house forty miles an hour just think how much better you are off than those in the city who work by the job and whose home is in some attic.—*Correspondent, Our Grange Homes*.

Our Roads.

There is no copyright on the topic of good roads. Bad roads are too numerous. They are to the manor born—a part of the nineteenth century civilization. We luxuriate in them, abound in them indeed, as one of the institutions which, "like the poor," we have always with us. Every once in a while one runs into a hole or against a stump; breaks an axle or a wheel, or the harness gives way, or something of the kind occurs before anybody would have thought of it and then we begin to clamor for good roads. We refer to this matter once in a while, not so much to urge it as to keep it before the readers; for when an effort of this character so apparently and obviously necessary fails of itself to appeal to the good judgment of the best people there is little use in urging it. It is very evident that were the roads of every populous district in Missouri put into good condition they would not only save money, but enable those who use them to make both time and money. Then again the value of property as a marketable commodity would be greatly enhanced, especially if the highways were studded and ornamented with shade, fruit or nut-bearing trees. Our countrymen look upon such things as weak and ephemeral, but to us they are important and very valuable considerations.—*Colman's Rural World*.

If you would keep an account with your fields, you would find out that you can produce corn, oats, hay, or anything cheaper on a well-manured field. You would find that there are certain expenses which are exactly the same whether you have a good crop or a poor one. These are: (1) Interest on original cost of land, buildings, and fences. (2) Cost of seed to a certain extent. (3) Cost of cultivation.—*National Dairyman*.

College Business.

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ONE REASON WHY THE MONEY QUESTION IS IMPORTANT. I.

BY PROF. T. E. WILL.

[Adapted in part from a lecture on "Value" delivered in the College Chapel, Friday, October 19th.]

WHILE, as might be expected in times of monetary stringency, many phases of the question of money are now receiving attention, scientific and other, one aspect of the case, of highest importance, seems largely to have been overlooked; that, namely, of the bearing of the money question upon what in evolutionary parlance, would be termed "social differentiation," and hence social progress.

Throughout the organic world progress is from the simple to the complex; from the homogenous to the heterogenous. The lowest animal type is destitute of limbs, of organs, and even of parts. It is a simple undifferentiated lump of pure albumen; it may be cut in two without danger or damage to itself.

Rise a little higher in the scale of animal life, and we find the animal has developed an inside and an outside part. It has assumed the shape of a tube; yet so great, still, is the likeness of the parts that the creature may be everted, and in this condition its former skin will do the work of a stomach, while its one-time stomach now answers equally well as a skin.

Let development now continue; in time there will appear a pulsating tube, the forerunner of a heart; a single cord bespeaks a spinal nerve and a neural system; until at last we find in man, the highest type of animal, fully developed digestive, vascular, respiratory, and nervous systems, with organs of special sense—eyes, ears, nose, and tongue; all bewilderingly complex in their structure and diverse in their functions; until man, standing in awe of his very self, is driven to exclaim, "I am fearfully and wonderfully made!" The whole course of his progress, however, from moneron to man, has been a progress from the simple to the complex; from the homogenous to the heterogenous; from the undifferentiated to the more and more highly differentiated.

Similarly with a human society. Note it at its lowest stages in the savage tribe in the jungle of Africa or on the island of the South Sea, and you will find its one characteristic to be that of uniformity. The only appreciable distinction between individuals is that of sex. What one can do all can do; what one knows all know. The tribe possesses no governing agency, no religious organization; no educational, no military, no industrial system. The tribe rivals the moneron in simplicity.

In time, however, development manifests itself. The men hunt; the women remain at home and perform the domestic labor. Next, competition with animals leads to competition with the men of other tribes, and warfare begins; to be carried on, like hunting, chiefly by the men. Captives in war, at first devoured as food, are later spared and employed as laborers at home. Cannibalism gives place to slavery, and the tribe advances one grade. Work, too, that has been performed wholly by the women is now divided between the women and the slaves, and division of labor has advanced a second step.

War necessitates leadership. The military chief becomes the King, the germ of the monarchy and the later governmental system, from which split off the military, the legislative, and judicial systems. Next appears the medicine man with his incantations, claiming familiarity with the invisible powers that may affect man for good or evil; the precursor of the ecclesiastical hierarchy which will divide with the State the dominion over men. From the priestly class spring the teaching class, the medical class, and the other professions.

The industrial system, too, develops. Slaves ruled by masters give place to serfs ruled by lords, and these, in time, to wage-earners governed by employers. Special trades and arts develop. One class confines itself to the task of shoe-making; another to the raising of grain; still others to mining, smelting, manufacturing, and the like. With continual progress, differentiation becomes more widely extended, specialization more minute; until, in the modern city, scarcely two men in a multitude can be found who perform exactly the same kind of work or produce exactly the same kind of thing; and in a widely extended society like the United States millions, while competing, still co-operate in the production of the grand total of the annual national product of wealth, rubbish, and illth.

Progress, then, in the human society as in the animal kingdom, is seen to be from the simple, the

the homogeneous, the undifferentiated, the non-specialized, to the complex, the heterogeneous, the more and more widely differentiated and highly specialized.

What bearing has this fact upon the question of money? This: Note that in the simple society each member supplies his few crude wants directly by the labor of his own hands. Each, at first, gathers for himself the nuts and berries or catches for himself the insects that constitute his food. Each prepares for himself his own shelter and his dress of bark and skins. In the primitive society, and in it alone, is man independent. Like the cell of the polyp, he may be cut off from his fellows and will suffer little inconvenience.

In the highly developed society, however, man is absolutely dependent. No man can live upon shoes alone, nor upon cambrics, nor houses, nor even upon bread; much less can he live on the "twentieth part of a pin," taken however many thousand times. His own product or his contribution to the general product is wholly inadequate for his wants. He must exchange his single infinitesimal product against the ten thousand things that go to make up his life. Hence arises the question of exchange. "How," he asks, "may I exchange my product readily and fairly against the multitude of other products necessary to my daily increasing wants?"

CHEMICAL NOTES ON POPULAR TOPICS. III.

BY PROF. J. T. WILLARD.

IT is a well-known fact that there is seldom any definite relation between the prices of beef cattle and beefsteak. The price of cattle may drop below the record, but the same familiar prices for dressed meat at retail continue. If cattle get to be unusually high, we may hear from it by an advance in retail prices, but a drop does not seem to involve a corresponding response. A similar state of affairs is becoming more and more noticeable in the discrepancy between the price of wheat and the baker's price for bread. The same prices are charged for bread made from forty-cent wheat as used to be asked for bread made from dollar wheat. The writer's interest in the question being aroused, he performed a simple experiment to determine to what extent the cost of the raw material enters into the cost of the loaf of bread. A fresh loaf retailed at five cents, or twenty-four for a dollar, was found to weigh 496 grams, or 1.09 pounds. As fresh bread contains more water than flour does, the loaf was thoroughly dried, and then found to weigh 300 grams, equal to .66 pounds. This is equivalent to .73 pounds of flour, since all flour contains about ten percent of moisture. Such flour as is used by bakers can be bought for \$1.40 per hundred, or perhaps less, and the very best high patent flour costs but two cents a pound. There is therefore about one cent's worth of flour in a five-cent loaf of bread, and at present prices this flour has been made from about .88 cents' worth of wheat.

If the profit for the baker indicated by the above figures seems large, this much can be said for him: that he does not deceive you usually, but furnishes what he professes to, a wholesome article of food made of good flour. No excuse whatever can be made, though, for exorbitant charges of another sort which have recently come to the writer's attention. There is a group of diseases known as diabetes, characterized by an inability of the organism to assimilate any carbohydrates except levulose or such as yield levulose by the action of the digestive ferments. Starch is finally converted into dextrose, i. e., grape sugar, or common glucose, by the digestive fluids. This dextrose is absorbed into the circulation, and in health gives heat and muscular force to the organism. But patients suffering from diabetes cannot assimilate the dextrose, and it is excreted by means of the kidneys. To avoid the excessive strain thus thrown on these organs, physicians prescribe a diet as nearly free from starch and other glucose-forming carbohydrates, as possible. To meet the demand for such food, a flour is upon the market which professes to be gluten flour and to have had nearly all the starch removed from it. Whether or not there is an article which fulfills these claims, the writer cannot say; but two samples of gluten flour sold by a reputable firm to a gentleman of this town at the rate of ten dollars per hundred have been analyzed with the subjoined results. At the same time a sample of middlings which sells at forty cents per hundred was analyzed. As the value of the flours for the

use of diabetics depends on the amount of proteids which they contain, only nitrogen was estimated.

	Nitrogen.	Equivalent to Proteids.
Gluten I.....	2.23	13.94
Gluten II.....	2.13	13.31
Middlings.....	2.48	15.50

It will be seen that the results are similar, but that the forty-cent middlings were actually worth more than ten-dollar "gluten flour." Such an outrage as this upon suffering invalids cannot be characterized in parliamentary language.

Since the above was written the following dispatch has appeared in the daily papers:—

CINCINNATI, O., Oct. 31.—President W. G. Irwin, of the Queen City Cracker Company, today announced a reduction in the price of bread from five to three cents per loaf, and it is conceded that all competitors will meet the rate. Mr. Irwin, in referring to the present condition of the poor, says they can get this benefit without loss to the bakeries, owing to the present price of flour.

A similar reduction in price has been made by New York bakers.

COLLOQUIES WITH THE CAMPERS.

BY PROF. H. M. JONES.

AN exodus is now in progress. It began three months ago. It is not yet over. Remembering that the Kansas corn crop in the western part of the State was largely cut off, and that Nebraska's is only fourteen per cent, while South Dakota is suffering from a great shortage, it is not necessary to ask, "Where do the campers come from?"

It is too early to give figures on the extent of this movement, but, by actual count, twenty-eight emigrant wagons passed in one day, in Clay county, a certain farm situated on one of the through roads. Coming from the West and Northwest, most of the campers follow down the Solomon, making for Junction City. Many, however, pass through Manhattan.

Who are these people, and where are they going? A few doubtless belong to that class of ne'er-do-wells, the nomads of the West, who drift hither and thither, doomed like Cain to be "fugitives and vagabonds in the earth." What they live on is a problem; perhaps like other birds of passage, they get their food on the way. A lean mule, a poor horse, a rickety wagon with top once white, a troop of ragged children, some dogs (probably yellow), some cooking utensils, a man, a woman, and a shot-gun make up the typical "prairie schooner" and crew, whose captain is a man who always believes that "the place in which I now am is not a good place to be."

How about the make-up of the present exodus? It consists in the main of a class very different from the wandering squatter just described. Most of these movers are plucky, hardy people, having just that kind of grit that developed the West. Two weeks ago I talked with a family that came from South Dakota. They had been on the road for seven weeks. To all appearances they were thrifty people; they owned four good wagons, five or six good teams, well harnessed, some young stock, and a considerable cargo of household goods. Arkansas was their objective point. "Yes," said one of the women, "there are several families of us, but we had to leave; we raised nothing this year, nor last, and the year before just enough to get through on. We want a warmer country where we are sure of raising enough to eat."

Another family, coming from Nebraska, said that they planted, this year, 130 acres of corn, and did not get a roasting ear; two years ago, from 180 acres of corn, not enough to feed the teams what grain they needed. The lean span of mares and the melancholy mule colt grazing by the road side did not dispute these statements. Said the man: "Two years ago I could have sold out for \$2000. All I now own is on the wagon. I came off and left my place." He reported that he traveled, for fifteen miles, through a section entirely depopulated. The former inhabitants seemed to have been prosperous, for they had good buildings, now simply abandoned. Another pilgrim said that, when he started from his home in Nebraska, but two families remained in the whole township. Said another unfortunate: "Don't think we haven't worked; we have worked hard, but it was no use. We had seven failures in fifteen years." Another reported from his locality eight failures in twenty-one years. I had no means of verifying these statements, but the various emigrants interviewed were indisposed to talk, answering only when cross-questioned. Surely they are not the shiftless "floaters" which infest all new countries. You were beaten before you left. Why did you not get out sooner? "Well we were ashamed to go back where we came from with nothing, and those who put in the most and lost it were the most ashamed, so they stayed the longest."

Such people have not the money to go by rail, so

they travel quietly in the country. The reporter does not often interview them, so the magnitude of this movement is not known at present, but I apprehend it is larger than most people think. Perhaps the poll-books in the coming election will cast some light. These people were bona fide settlers who had faith in a country not agricultural. They have fought a losing fight. There is pathos in the white-covered wagon; often its occupants are principal actors in a tragedy. Many are still sticking to the claims, hoping for some deliverance, expecting that "their luck will turn," or that irrigation will prove a savior, or that something will happen somehow. The waste of time, money, men, and devotion worthy a better cause has been great. Who is responsible? With all the knowledge, agricultural and otherwise scientific, at the command of the powers that be, these great emigration movements should be under a competent and authoritative supervision.

Better Horses Needed.

In conversation with a large dealer in horses, he remarked on the scarcity of the class of heretofore seen in these articles, and expressed surprise that farmers in general did not take an interest in this matter.

A better class of farm mares should be selected—those weighing 1,150 to 1,200 pounds when in working condition, standing fifteen hands three inches to sixteen hands, bays or browns, the less white the better. Such mares are the sort to mate with the larger sized trotting sire, with a pretty certain chance of producing fair carriage colts, and a recross will produce something better. Of course, a really good coach stallion is better, but the native, full-sized trotting stud will be found a pretty fair substitute; indeed, often better than some of the imported sires, among which can be found those "pinched in just below the knee," a most criminal defect, and others with great beefy shoulders and hindquarters—in other words, "animals that are all body and no legs," the legs being totally inadequate to support the huge body.

Quality is coming more into demand every year, and this quality shows up better from our own blood than from foreign, that is, to our eyes; and there are many foreign buyers who have acquired the same taste for conformation as we have, and so have taken quite a fancy to the large-sized horses for carriage purposes.

The market for the better class of horses will be good for an indefinite time to come, and while farmers are suffering from the low prices of wheat they may well turn their attention this way for a few years, for they cannot lose if they will exercise judgment.—*Baltimore Sun*.

Political Indifference Criticised.

Would there be such occasion for Lexow committees, civic confederations, and committees of seventy, would there be as many evils in municipal government, if all our men of business and education attended to their political duties by taking active part in the nomination and election of city officials? Is it not likely. Political indifference, especially among educated people, is notorious. They even point to it with pride. They would resent the imputation that they lack patriotism, but that is exactly what their political indifference amounts to. Every citizen is concerned in good government; all have a common interest in it. The welfare of society depends upon it. We can have good government only through the services of honest and capable officials. The citizen who neglects to give his aid toward the election of such officials is indifferent to the welfare of his country, and really does lack patriotism. It is not only a lack of patriotism, but it is a lack of foresight and intelligent self-interest for men of business and education to neglect their plain duties as citizens, for in time the evils of misgovernment fall most heavily upon them. These they become aroused; they investigate, they are astounded at the condition of public affairs; they overturn and reform things, and then lapse to their former condition of political indifference. The excuse offered to their political indifference, that politics is nasty, is no excuse. If every citizen of the republic performed his bounden duty, politics would not be nasty. Even at its worst, politics is not as bad as the cleaning-up jobs in which they do take part when the condition of affairs becomes unendurable.—*Farm and Fireside*.

One Hour of Home Reading.

One hour of thoughtful reading each day will furnish food for meditation for all your leisure hours. Persist in this practice until it becomes a ruling habit. Read and study the lives of good men until you have discovered the secret of their goodness and greatness. Read and study history until you know and appreciate the people, understand and measure the leaders, and thus are able to comprehend the causes that made the nation help or hinder the world's progress. Read and study literature until you make your own the ideas of the author, see the pictures he paints, understand the characters he portrays, and can think out to their legitimate conclusions the ideas expressed. In science, verify statements read by observation or by experiment, if possible. Do not feel satisfied with understanding the words of the author. Master the thought, welcome the enthusiasm he inspires, and think out the ideas your study suggests. Study and respect the opinions of others, but in the end stand by your own conclusions.—*W. W. Stetson, Lecturer Maine State Grange*.

The Weather for October, 1894.

Temperature.—The mean temperature was 57.40°, which is 3.03° above the normal. There have been thirty cooler and five warmer Octobers in the period covered by our record, the coldest being in 1869, when the mean temperature was 44.05°, and the warmest in 1886, when it was 60.93°. The maximum temperature for the month was 93°, on the 17th and 20th; the minimum, 24°, on the 31st—a monthly range of 69°. The greatest daily range of the thermometer was 48°, on the 22nd; the least, 3°, on the 29th. The warmest day was the 20th, with a mean of 71.25°; the coldest, the 30th, with a mean of 38.75°. The mean temperature at 7 A. M. was 46.61°; at 2 P. M., 72.39°; at 9 P. M., 55.29°. The mean of the maximum thermometer was 75.74°; of the minimum, 43.61°; the mean of these two being 59.68°.

Barometer.—The mean pressure for the month was 28.757 inches, which is .05 inch below normal. The maximum was 29.142 inches, at 7 A. M. on the 13th; the minimum, 28.30 inches, at 9 P. M. on the first,—a monthly range of .842 inch. The mean at 7 A. M. was 28.791 inches; at 2 P. M., 28.734 inches; at 9 P. M., 28.747 inches.

Cloudiness.—The per cent of cloudiness for the month was 22, which is 10 per cent below normal. The per cent of cloudiness at 7 A. M. was 27.42; at 2 P. M., 25.81; at 9 P. M., 12.9. Two days, the 1st and 28th, were entirely cloudy, two were two-thirds cloudy, four were one-half cloudy, two were one-third cloudy, five were one-sixth cloudy, and sixteen were clear.

Rainfall.—The total rainfall was 1.685 inches, which is .55 inch below the average. Rain fell in measurable quantities as follows: 1.09 inches on the 1st; .40 inch on the 5th-6th; .12 inch on the 6th; .075 inch on the 18th. The total rainfall for 1894 up to November 1st is 20.41 inches, being 7.41 inches below the normal of our record for this period. Wheat still continues to have a remarkably fine appearance, but a good rain is needed to send it into the winter in the best of shape. Since the failure of the wild grass pastures, which immediately followed the series of frosty nights beginning with the 8th, a good many farmers have pastured their wheat. Tame grass pastures still yield pretty good "picking" at the close of the month.

Wind.—The wind was from the south twenty-five times; southeast, sixteen times; north, fifteen times; southwest, fourteen times; northwest, eight times; east, six times; northeast, five times; and west, four times. The total run of wind for the month was 7903 miles. This gives a mean daily velocity of 254.9 miles, and a mean hourly velocity of 10.62 miles. The highest daily velocity was 562 miles, on the 29th; the lowest, 92 miles, on the 8th. The highest hourly velocity was 34 miles, between 4 and 5 P. M. on the 29th.

The following tables give a comparison with preceding Octobers:—

October.	Number of rains.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858.....	6	5.67	42	S	56.38	92	30	28.81	29.18	28.30
1859.....	2	.64	42	S	53.87	84	28	28.81	29.18	28.30
1860.....	1	.42	10	SW	56.31	91	29	28.81	29.18	28.30
1861.....	6	2.12	42	NW	55.67	84	32	28.81	29.18	28.30
1862.....	4	1.62	31	S	58.98	94	16	28.81	29.18	28.30
1863.....	3	2.40	42	NW	47.80	79	11	28.81	29.18	28.30
1864.....	4	.68	46	NW	48.92	73	25	28.81	29.18	28.30
1865.....	3	.43	22	S	57.53	88	30	28.81	29.18	28.30
1866.....	5	.91	29	S	56.31	92	29	28.81	29.18	28.30
1867.....	6	2.51	37	S	52.43	79	32	28.81	29.18	28.30
1868.....	2	.43	24	SW	44.05	79	19	28.81	29.20	28.50
1869.....	9	5.06	51	SE	56.05	78	30	28.81	29.18	28.30
1870.....	6	1.20	32	SW	55.81	91	31	28.81	29.18	28.30
1871.....	5	2.76	22	S	54.98	91	27	28.81	29.18	28.30
1872.....	2	.42	42	SW	51.23	84	14	28.76	29.10	28.32
1873.....	3	.22	39	SW	56.14	84	15	28.81	29.18	28.30
1874.....	3	1.04	38	SW	53.04	88	23	28.78	29.17	28.32
1875.....	3	1.01	41	SW	53.59	83	21	28.74	29.33	28.13
1876.....	8	9.07	66	SW	53.18	80	27	28.76	29.06	28.39
1877.....	4	1.06	29	SW	54.67	89	17	28.74	29.26	28.16
1878.....	4	2.63	37	S	60.84	86	24	28.70	29.17	28.40
1879.....	7	2.20	44	SW	52.10	81	23	28.69	28.98	28.21
1880.....	8	4.27	59	SW	56.54	88	32	28.65	28.96	28.07
1881.....	4	3.54	38	SW	57.71	83	32	28.62	28.92	28.10
1882.....	12	7.05	55	E	51.45	87	37	28.68	29.10	28.10
1883.....	6	2.22	20	S	60.06	87	33	28.57	28.88	28.34
1884.....	4	1.72	22	NW	50.62	85	20	28.61	29.07	28.37
1885.....	3	2.42	16	SW	60.93	91	25	28.99	29.45	28.49
1886.....	2	2.20	18	S	51.00	91	16	29.09	29.54	28.52
1887.....	4	2.74	29	SW	52.10	82	23	28.90	29.16	28.55
1888.....	3	1.42	40	E	52.21	86	26	29.12	29.40	28.76
1889.....	4	1.99	29	N	53.33	86	23	28.87	29.29	28.50
1890.....	4	2.45	13	SW	53.16	89	22	29.03	29.44	28.66
1891.....	4	1.32	19	S	55.67	93	23	28.90	29.21	28.55
1892.....	2	.71	11	S	55.41	95	24	28.84	29.31	28.44
1893.....	4	1.69	22	S	57.40	93	24	28.76	29.14	28.30
Means.....	4	2.24	32	SW	54.37	86	24	28.81	29.18	28.37

WIND RECORD.

October.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889.....	4854	156.59	349	82	6.53	26
1890.....	7008	226.06	460	48	9.42	34
1891.....	6919	223.19	560	75	9.30	30
1892.....	7039	227.06	729	68	9.46	41
1893.....	8744	282.06	500	108	11.75	32
1894.....	7903	254.90	562	92	10.62	34
Means.....	7078	228.31	527	79	9.51	33

C. M. BREESE, Observer.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds a. par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Hallowe'en passed with no incidents or accidents worthy of notice.

G. G. Boardman, Fourth-year, spends next week at home on business.

E. H. Freeman, Fourth-year, makes a hasty business visit to Topeka today.

The College eleven went to Abilene this afternoon to engage the team of that town in football.

W. H. Phipps, Fourth-year, visits at home today, speaking there this evening on the political situation.

Prof. Popenoe enjoys a visit from his sister, Miss Lucy Popenoe, and his cousin, Miss Helen Curry, both of Topeka.

Mr. Arthur Letchworth, representing Whittall Tatum & Co., Philadelphia, made a business visit to the College yesterday.

Mrs. Payne and daughter surprised their son and brother, J. E. Payne, post-graduate, by a visit last week on their return from Nebraska.

Hon. J. K. Hudson, editor of the Topeka Capital, accompanied by Mrs. Hudson, gave the College a call today. Major Hudson was a Regent of this College at the time of the re-organization of 1873, and has always taken a warm interest in its progress.

The Friday lecture on Economics yesterday in Prof. Will's course, took up the factors in production, explaining briefly the various theories, with the fallacies involved, in regard to the kinds of effort which produce the wealth of society. The conclusion was that all the energies which contribute to the welfare of society are productive, while all the energies which work ill to society are destructive.

Miss Edith Lantz's home on Houston Street was open to a few intimate friends on Wednesday night. Hallowe'en games and refreshments helped to pass a very informal evening. The guests present were Misses Clara Newell, Fannie Parkinson, Sadie Stingley, Louise Spohr, and Miriam Swingle, and Messrs. Will Cavanaugh, A. L. Peter, Bradford Dougherty, G. B. Norris, C. M. Buck, and Chas. Lyman.—*Nationalist*.

The high wind and the clouds of dust combined did not damp the ardor of the jolly Second-year girls and Post-graduate girls on their nutting expedition Saturday last. Forty nuts—one apiece—were found, and they were of last year's crop. But, though nutting ostensibly, there was little disappointment in the scarcity of nuts; for the scenery of the Wild Cat was admired, the forest leaves rattled under foot, and lunch was eaten with a relish an outing alone can give.

College people took a prominent part in the entertainment of Thursday and Friday by the ladies of the Congregational Church. Pres. Fairchild told of "The College Bell," and its history. Prof. Olin wrote "The Cloud," sung by Mrs. Cavanaugh. Mrs. White wrote the Cantata "Brownies and Fairies," and Ella Child, '77, drilled the actors. Prof. Hood related "A Psychic Experience" and Prof. Olin, "The Professor's Hallowe'en." A Comedy, "Not What They Seem," was written by Grace Clark, '93. The following students shared in this original entertainment: Rena Helder, '94; Mary Lyman, '94; Hilda Walters, Ida Walters, Elsie Crump, Hortensia Harman, Mabel Selby, G. W. Fryhofer, C. B. Selby, H. Brown, B. R. Brown, Chas. Lyman, R. W. Clothier.

GRADUATES AND FORMER STUDENTS.

C. G. Clarke, '88, is elected orator of the Senior Class at Yale.

G. K. Thompson, '93, came down from Irving for a few days' visit this week.

John Stingley, '94, spends some of his "periods of inactivity" at his Alma Mater.

Mrs. Belle Selby-Curtis, '82, of Kansas City, is visiting her mother in Manhattan.

Fanny E. Thackrey, Third-year, drops out of classes to help her brother in a store at Gordon, Neb.

H. R. Phillips, Second-year, in 1890-91, writes of successful farming for the past three years near Diamond Springs.

Mrs. Anna Fairchild-White, '91, wrote the sparkling cantata, "Fairies and Brownies," presented by the company of twenty children in Grange Hall Thursday and Friday evenings, and Mrs. Eusebia Mudge-Irish, a student in the '70's, set it to music.

W. P. Tucker, '92, came in Monday on a bicycle. He has spent a month or more awheel in the western

part of the State for his health's sake, and plans a trip to Missouri before going home. He is pursuing his law studies at home in Douglass.

Mrs. Ione Dewey-Earle, '93, of Denver, and Jessie Hunter, Second-year 'in 1890-91, visited friends at College on Thursday.

J. E. Thackrey, Fourth-year in 1889-90, spent a few days at home this week. He is in the mercantile business at Gordon, Neb.

G. W. Smith, '93, John Frost, '93, and G. W. Fryhofer, Fourth-year, had papers at the District Convention of the Epworth League in Manhattan last month. Other students took part in the exercises.

Shop Notes.

Electric power is now furnished to the Farm Department from the new power plant. One man feeding the fodder cutter used to be able to "stall" the ten-horse-power engine used, while it now takes the vigorous efforts of two men to feed the machine without making any appreciable difference in the running of the ten-horse-power electric motor.

The track connecting the boiler room with the coal pit and ash dump is nearly completed. It has furnished work for several of the boys for the past two weeks. Fireman Lund will appreciate its advantages when it is in working order. It has been dubbed the "Agricultural College and Denver Extension."

A few of the carpenter shop boys have just completed the erection of a small frame house for outside parties. It was built back of the shop, the boys putting in their industrial time on it.

Detail drawings have been completed and placed in the hands of the Foreman for a show case partition to be built in the entrance to the wood shop, behind which will be placed a permanent exhibit of cabinet and bench work of the students. The partition is to be built by students, and will be in itself an exhibit of their skill in this line of cabinet work. It will be built of ash, finished in the natural grain.

Many of the new students have become so interested in the bench work in the wood shop that they put in all or a portion of their spare time at the work. Many are doing very creditable work. Over twenty were counted at the benches last Saturday, and a keg full of problems was the result. It is rare that this privilege is found in school shops. Many of them require a fee of five cents per hour for the use of tools out of class hours.

Some of the radiators in the new Library room do not work satisfactorily, and a change is contemplated which will heat the room early in the morning.

E. H. WEBSTER.

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emelie Pfuetze; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembly, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Seest; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

October 27th.

The Webster Society was called to order at 7:30 this evening, with Vice-president Freeman in the chair. Roll call was followed with prayer by C. D. McCauley. The minutes of the previous session were then read and adopted. F. R. Jolly was appointed recording secretary, A. G. Bittman being otherwise engaged. Messrs. S. Nichols, E. C. Loury, and C. H. Lehmkuhl were initiated into the Society. During the next hour the Society was highly entertained by Messrs. H. C. Robinson and C. G. Evans, who presented the affirmative of the question, "Resolved, That the laws for prevention of cruelty to animals should be more stringent," while F. H. Meyer and J. R. Henry ably argued the negative. The affirmative cited many instances where uncalled-for and fiendish cruelty was practiced upon our poor, dumb, domesticated, and even upon the peaceful and harmless wild animals which once graced our broad expanse of fertile plain. The speakers on the negative upheld their side of the question by enumerating many cases in which it was clearly proved that laws which do exist, when enforced, are stringent enough, and that as the subject has received so much recent agitation, no further legislation is necessary. The Society was pretty evenly divided, but a slight majority gave the question to the affirmative. J. V. Patten and J. J. Johnson, a worthy Hamilton, rendered a mandolin duet, accompanied by A. G. Bittman on the organ. The number on the program was a declamation entitled "A Minority," by B. R. Hull. All the late news from various sources was next imparted to the Society by E. B. Patten. C. H. Stokeley, in a discussion on the "Advantages and Disadvantages of Drill," convinced

many Freshmen and Sophomores that drill was indeed a great benefit to them. Our critic, T. W. Morse, then made a few pointed remarks, and offered his usual number of suggestions, accompanied by good advice for all. A recess of ten minutes followed. After recess the business part of the session was especially devoted to the discussion of furnishing our new room, and to our special session, which is to be held on the 17th inst. Other matters of importance came before the Society, and as a whole the session was one of the best. Adjourned 10:30. F. R. J.

October 27th.

The Hamiltons were well represented in their Society Hall when Pres. Barnett rapped for order at half past seven o'clock. Prayer by F. A. Dawley. Mr. Yoder was then elected to membership. The first production of a very interesting program was a declamation, entitled "Pay the Printer," given by L. G. Hepler in a very rhetorical manner. In an oration C. A. Johnson very ably pointed out why an active, energetic intellect required a sound, healthy body to sustain it. The news, by H. G. Johnson, was up to date in containing all the important political, historical, and commercial events of late note. The debate on the question, "Resolved, that all the national officers should be elected by popular vote," was taken up, the affirmative being presented by F. A. Dawley and G. F. Farley. Among other things they said that, since this is a government of, for, and by the people, the people should be allowed a direct vote. As it is, under the present electoral system, the country is often ruled by the choice of the minority of voters. The present system does not, in many cases, voice the sentiments of the majority. In denying the affirmative, V. Emrick and V. Maelzer argued that, should popular vote be allowed in national elections, our contested elections would be greatly increased. During the last forty years nearly every presidential election would have gone to Congress to be decided, because of the lack of the required majority to elect. No country of note elects her national officers by direct vote. The Society decided the question in favor of the negative. After a recess, the Society was foavred with mandolin music with piano accompaniment by Messrs. Johnson, Patten, and Bittman. The select reading by G. W. Jackson was well appreciated by the Society. A lively and interesting edition of the Recorder was presented by E. B. Coulson as editor. Under discussion, E. L. Smith described in detail the manners and customs of the Esquimaux. The usual business occupied the Society until the hour of adjournment. E. C. J.

October 26th.

Shortly after Chapel exercises, while yet filled with inspiration given us by the successful appearance of five of our number on the Chapel rostrum, the Alpha Beta Society met in their hall. Opening the program of the afternoon was a song by Mary Paddleford and Elva Palmer, followed by prayer by Nora Fryhofer. Two new names were added to our growing roll, and Mr. Henley and Miss Gilkerson were initiated. Declamation, Marion Jones. Essay, Ada Ingman. The question, "Resolved, that there will be a radical change in the administration of government in the next fifty years," was discussed on the affirmative by M. G. Spaulding and R. W. Rader, and on the negative by W. H. Morgan and C. Buck. The affirmative maintained that the aggregate of small reform parties is large and rapidly growing. The East and West are on the verge of separation, owing to different interests. Great minds predict a change, and the present demands of reform can only be met by constitutional changes. The negative declared that reform can be inaugurated without a radical change; there is no demand for such; arbitration can settle sectional differences, and the structure of the constitution puts a check on all extreme changes. The Gleaner was edited by R. W. Clothier. After a few minutes social our quartette gave us a song, but were not prepared for the encore the Society heartily called for. Informal speeches were made by Guy Hulett on improvement in society work, and Josephine Finley on flowers of California. Miscellaneous business. Report of critic. Reading of minutes. Roll call. Vocal solo with organ accompaniment, Miss Mannen. Adjournment. J. B. S. N.

September 26th.

The Ionian Society was called to order by President Thompson. Miriam Swingle was appointed Recording Secretary, Miss Kennet being absent. After congregational singing, prayer by Ethel Patten, and roll-call, which showed that all the members but three were present, Miss Ellis was initiated. The program began with a declamation, "Obediah and Me," by Tacy Stokes. Next was a vocal duet by Emelia Pfuetze and Gertie Lyman, which was followed by a reading by Miss Kimball. The comb quartette, Misses Harman, Corbett, Thompson, and Wilson, then evolved "some classical music," which was so well appreciated that they were twice recalled. The Oracle, with "No backward footsteps" for its motto, was presented by the Editor, Mary Norton. This number contained some good, thoughtful pieces, with fun and don'ts interspersed. Rena Helder gave an instrumental solo. The Society highly appreciated the next number, which was an instrumental duet, on the banjo and guitar, by Mrs. Selby-Bowles and Charles Lyman, who responded to a hearty encore with another fine selection. The program was closed by a vocal solo, "Starry Waves," by Jessie McClurg. After report of committees, business, assignment of duties and roll call with quotations, the Society adjourned. E. E. N.

From many careful experiments it has been determined that the force necessary to draw a given load on a level, good broken stone road, is less than one-third of that required to draw the same load on a common earth road.—V. G. Bardour.

"Horse Sense" in Homeopathic Doses.

Have faith in your business and in your ability to live, be the farm never so little. Why distrust the faithfulness of mother earth?

When the fence rows are producing as tall a crop as the corn rows, the owner thereof is fighting against fate.

Four hundred years ago the Peruvians built roads that put ours to shame. Why we are content in this age with ruts through the mud, it is hard to understand.

The farmer should have a shorter cut to the consumer. He must know where to ship and what the market demands. It never pays to ship inferior stuff.

It is folly to watch your fields while many undesirable plants are disturbed by being permitted to ripen along the highway. Look after your road supervisors.

Many a field should be "turned out" to rest and recuperate. Most of our soils have lost their virginity. A farmer's manure pile represents just so many dollars.

The keeping of roadsides clean and the planting of trees along them are two matters that should be considered while talking about improving roads.

Let the women take up the road question; muddy winters have made them prisoners long enough. The farmer seems yet content to tug away at his half-loads.

There is no gain in small yields. The foreigner, with his importations at low prices, may yet swamp the shiftless among us. Competition is going to make better farmers of us all.

The man who attempts to farm without fertilizing soon gets to the end of his string. Settlers upon new lands should recognize stock raising as an essential adjunct.

It is a sober fact that with no other occupation can a working man, with small capital, support his family so well, save a little money, and live under such easy, free, and wholesome conditions as the farmer.

One hundred bushels of corn per acre have been raised at a cost of nine cents per bushel. How about the man who spends the same nine dollars per acre and then raises but thirty bushels.

Production was never so cheap as today, because machinery enables one man to do the labor of many. We must consider this when comparing our prices with those of a generation ago.

Mix lime with the compost heap, for the reason that vegetable matter disintegrates more readily under action of ammonia when mixed with earth with this alkaline addition.

Why not try a change of "middlemen?" Our stock and our hens will pay more than 50 cents for all the wheat we can feed them. In this way must come the revolution in prices.

Most weeds come from seeds, and are annuals. To say that they are in no degree conquerable is nonsense, as is evidenced by the fields of the diligent farmer and the sluggard.

Potatoes, near a market, are more profitable than corn or wheat. It would seem that our farmers should be awakened by the fact that enormous cargoes are imported every year.

Good roads will increase the power of the team, save vehicles, and shorten distances. Land values, commerce, education, investments, comforts, health, and happiness all demand a reform in this line.

If you possess but few acres or many, it is not too soon to look the situation squarely in the face and lay plans for next summer in a systematic manner, with faith in the soil which you till.

It often costs the farmer more to haul grain five miles than it does the shipper to send it five hundred, yet he will grumble more at the transportation company's charges than he will at his own expenses.

Snow has been called "the poor man's manure." This is because covering or mulching land renders the plant food more available, converting it into forms more readily assimilated, though it adds no new elements.

Have the means of contentment and improvement at home, and outside temptations to yourself and your boys will have less power. Have your children reading that which is good, sound, entertaining, and morally healthful?—*Practical Farmer.*

In Love With Nature.

Mr. J. H. Hale, a widely known horticulturist, before the western New York Horticultural Society well expressed the sentiments of every true lover of nature. Perhaps the secret of his success as a horticulturist is revealed in the characteristics that he seeks to impress upon others in the following language:—

"Work among trees and plants and flowers broadens a man's soul and mind and makes him a better citizen in every way. Our plants and trees and vines, it seems to me, seem to know and understand that, and respond more rapidly to the hand of a man who knows and believes in them. I think those of us who are horticulturists work, first, because we love and enjoy and believe in it, are the ones who get the most out of life—not wholly in cash returns, although the money is valuable. No one has a right to waste the God-given energies in following even a burden. The man who gets pleasure out of his daily work is the one who is getting the most out of life, and the one also who is likely to get the best financial results.

"This thought of the heart and soul of a man being in his work should be considered in the employment of our help. We make a mistake in employing men who have no love in their work. The man who works only for his dollar is on a par with the old horse or mule."

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Southwest Kansas College at Winfield has four Literary Societies.

The last number of the *Campus* of Ottawa University prints the college "yell" on the title page.

The McPherson College *Educator* publishes an article against the school-book trust in which it favors the printing of all school-books by the State.

Since Dr. Quayle has left the president's chair at Baker University, Dr. E. W. Muller of the Wesleyan College at Salina is said to be the youngest College President in America. He is only 25 years old.

The State University *Students' Journal* is now published in magazine form, and the *Courier and Review* have been consolidated into the *Courier-Review*. The first is published monthly, and the second, weekly.

The twelfth annual session of the North Central Kansas Teachers' Association will convene in Abilene, Thanksgiving week, beginning Thursday night at 7:30, and continue in session till Saturday noon, December 1st.

The Baker *Beacon* is soon to be enlarged and its management divided between the Faculty and the students; i. e., they intend to adopt the plan followed by the Agricultural College in the publication of the *INDUSTRIALIST*.

Kansas University has no cause for complaint this year. There is an increase in the number of students, the new buildings offer improved facilities for work, athletic prospects are bright, and in short, everything is prosperous. The conditions here are in marked contrast with those in eastern schools. The letters from members of the faculties of eastern colleges, read by the Chancellor at the banquet, show that these schools are, at best, only holding their own this year, and that many of them are suffering from decreased attendance and financial stringency.—*Students' Journal*.

The State University has had phenomenal luck of late. Last summer it received a legacy from Ex-Governor Robinson of a quarter million dollars in lands. Two weeks ago it dedicated a new library building, the gift of a Mr. Spooner of Boston, who has also given it a \$12,000 Chancellor's residence. A short time ago it received another valuable endowment in property worth \$100,000 located in Kansas City, Kas. The donor is Dr. Simeon B. Bell, a wealthy physician of that city. He gives the land as an endowment of a medical school, and the only provision put upon the gift is that the hospital for the school must be erected on a part of the land within the next ten years. This will be the means of at once founding a medical school at Kansas University, which will have a four years course. The University will undoubtedly soon rank with the first institutions of America.

Next Tuesday Greenwood county will vote on the establishment of a county high school. Supt. Year-out in the last number of *Our District School* publishes a number of letters by prominent educators who expressed themselves on this question upon his request. Pres. Fairchild of the Agricultural College wrote as follows: "I am heartily in sympathy with your effort to secure better facilities for education in your county. In general I know that a county high school brings opportunities within the reach of many students that are frequently lacking entirely. The conditions in each county, I think, should settle the question of its establishment. The whole subject has been extensively canvassed by Chancellor Canfield, and his views have been widely published. If such a school could afford a little more direct training toward the home industries, such as we attempt, by introducing more elementary work in the sciences, I should feel more favorably disposed toward their establishment in every county. As it is, I am pleased to see them grow, because they indicate a general interest in the better education of the common people; and I have faith to believe that they will, in time, be thought of more as training schools for the multitude than as preparatory schools for the few who will attain to university training. I think the strongest argument for them should be the fact that the majority of young people will not, or cannot, go far from home to school. Students from the high schools make some of our best material, and we therefore welcome schools, because they raise the ambition of all the people to better training, and so upon the whole there is a gain."

Secretary Morton says that the American farmer is Antaus, and calls attention to the fact that the following men left their farms to become Presidents of the United States: 1. Washington, the land surveyor and farmer, from Mount Vernon. 2. John Adams, of Quincy, who, during the last year of his Presidency, said: "I am weary, worn, and disgusted to death. I had rather chop wood, dig ditches, make fences upon my poor little farm. Alas, poor farmer and poorer family, what have you lost that your country might be free!" 3. Jefferson, farmer, philosopher, and statesman, from Monticello. 4. Madison, farmer and lawyer, of Montpelier, Va. 5. Monroe, farmer, from Oak Hill, Va. 6. John Quincy Adams, from the Quincy farm of 100 acres, near Boston. 7. Andrew Jackson, of the "Hermitage," in Tennessee, who, as farmer, soldier, and lawyer, was a most excellent type of the best Americanism. 8. Van Buren, of Kinderhook, N. Y., was called to the presidency from his sheep and wool farm, although he was a lawyer of far above the average acquirements and ability. 9. William Henry Harrison, from his farm at North Bend, Ohio. 10. Tyler, of Sherwood, Forest Farm, Virginia, where he subsequently died. 11. James K. Polk, of Duck River, Tenn., also came from the farm to the presidency.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

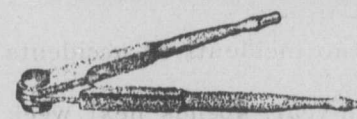
The *INDUSTRIALIST* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums. Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

A NEW BLACKBOARD COMPASS.



The Mechanical Department has produced a new blackboard compass which can be sold for a small price. They have been in use for the past two years and have given satisfaction. They are made of seasoned cherry, highly finished and with an improved joint, presenting a large friction and binding surface. Knurled brass clamping nuts on each side of the head. Handy to have. Handy to use. Handy to care for. Get one, 75 cents each, 6 cents extra for postage. Address O. P. HOOD, Supt., Manhattan, Kan.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

VARNEY'S BOOK-STORE.—Popular Headquarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

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SOME INTERESTING WRITERS.

BY JULIA R. PEARCE

THE long, tedious novel of two or three volumes seems to be a thing of the past. Life seems too short to spend so many hours, days, and weeks reading all the details of a long story, while the principle it is intended to expound, the lesson it may be supposed to teach, might be told in a few words much more effectively. Students especially find student life too full of immediate duties to allow them to wade in on some "Les Miserables" or "Don Quixote," good books in themselves,—books that should be read some day when the leisure can be found; but to most of us, who find the time which we can devote to reading limited to two or three hours a week, or even less, such books are discouraging. We must have something of a different nature.

No one dares in these days of broader culture to deny to novels their proper place in literature. The principles they are used to explain, the social and moral lessons often taught in them, the pictures of life and social conditions in other times and countries than our own, give them a value in our literature which must not be underestimated. But in busy America, where one runs and reads, another style of book has come into favor, and to meet the demand another class of writers have put in an appearance. They give us books that may be opened at any page and found interesting, where one can read a paragraph and have a thought to carry with him for a day, perhaps for a life time.

These writers of whom I speak are not essay writers. They ramble along on every-day topics near to each and all of us, and in such a friendly, social, conversational style that there is no need of any exertion if you don't wish to make any. They simply put their thoughts in words and let you follow along at your ease. They give you the impression that that was your own thought. Perhaps it was, but in better form than you could have put it, probably. You might never have known you thought so if it had not been so admirably expressed for you.

Take John Burroughs to the woods with you, and lying on some sunny slope above the river, the dead leaves for a couch, and the valley stretched out before you, read "Locusts and Wild Honey," or the story of the birch-bark canoe. Or on a July or August day, when all the air shimmers with heat, read "A River View" of life on the Hudson in winter. You forget the heat and dust of August, and in imagination you come sailing down the river on an ice sled or on skates, with white sails spread out for wings; or see in fancy floods of ice and snow come tumbling down the river. Perhaps the river seems to widen, and you see the gleam of white sails on the water, and your own beautiful valley with the winding stream and wooded banks takes on an interest unfelt before.

Even the weather becomes an interesting topic when one reads "Is it going to Rain?" Read "Speckled Trout," and then go fishing, or go fishing and then read "Speckled Trout," a la Squeers. Thoreau, of all writers perhaps the wildest character among men of letters, who, although a Harvard graduate and a man of culture and refinement, yet preferred to live in the woods like an Indian, and who wrote of woodsy ways and woodland things, is a winsome companion for a tired hour. His quaint, original way of putting his thoughts surprises, fascinates, and you learn to take an interest in things thought prosy before.

When you are casting about in the library for something recreative and restful for an evening's reading, and don't feel quite equal to a long story, try some of Charles Dudley Warner's many interesting books. "My Summer in a Garden" or "Saunterings" are books that may be read a second time with even more pleasure than the first. Get acquainted with the "Autocrat of the Breakfast Table." You will find him worth knowing. Read "Halcyon Days," and with Flagg "pull the boughs aside, to catch a glimpse of fauns and dryads, coming with softest rustle through the trees." Or if it is winter, and one can no longer lie among the leaves reading with one eye, and with the other watching bird or squirrel at their household duties, but must do his reading indoors, read "Lotus Eating" and forget your cares. This will not send one to bed with swollen eyes weeping over the woes of some tragic Arabella, but with the "murmur of pines and of hemlocks" in the senses, while you sit with Curtis overlooking the land of "The Culprit Fay," flooded with moonlight, and listen

to the magic music that makes of you and him alike "such stuff as dreams are made of."

TASTE IN DRESS.

BY MRS. E. E. WINCHIP.

THE history of dress is coeval with the history of mankind, and in the early ages it was as simple as the manners of the people that invented it. Leaves, feathers, and skins furnished the clothing of our first parents; but as civilization spread over the world, the genius and invention of man found means to change the wool of sheep into cloth, a raw hide into leather, the web of a worm into silk, flax into linen, and to extract from flowers, woods, and minerals dyes and colors. The simple garments of their forefathers were abandoned, and clothing grew more varied, more luxurious, and more extravagant. Taste in dress, as in the other arts, shows the growth of civilization and refinement.

The styles of dress have varied in different ages and countries, but in general they have been in keeping with the characteristics of the people and of the climate in which they have lived.

Doubtless those who lived in the early ages said as do we today, "The present fashion is the prettiest," and "We were never better dressed than at the present time."

The best dressed woman is not the one who spends the greatest amount of money on her clothes, but rather she who follows the first laws of true fashion,—good sense and refined taste,—and who clothes herself according to her position. Her dress should be so simply an expression of the woman that she is unconscious of it when she has put it on. Thinking should come before the dressing. It is a talent with some women, and the aim of a well-bred woman is to dress so as not to draw especial attention to the dress she may wear.

A woman may be richly clothed, but still ill-dressed if she be not completely well-dressed. Buttonless gloves, shabby boots, or soiled collar give us the impression that there must be a lack of true principles. The child has more respect and love for its mother if she be always neatly dressed. The dress need not be expensive; it can be well made, neat and cleanly, suitable for her work, the place, and the time it is worn.

Beauty in dress requires taste and skill to adapt the style of dress to the person; for what is becoming to one may not be to another. The tall person cannot wear the same clothing that suits the short, stout one. A color that is becoming to the light-complexioned woman would look entirely out of place for one with dark hair and eyes. There must be a certain individuality in adapting the style to the person. As the sculptor spares no pains to make his drapery suitable to his figure and pleasing to the eye of the most fastidious, should not the living form be treated equally well? It is not a waste of time to so plan and adapt the clothing to the wearer that she may be a pleasure to herself and to those about her.

THE EDUCATION OF FARMERS.

BY E. B. COULSON, '96.

WHEN we come to study all the intricacies of farming, we see that the education required is peculiarly distinctive in its character. There is no calling or profession in which special knowledge and training are more essential to success. The many widely diversified lines of production which come under the general head of farming make it necessary for the wide-awake farmer to have a broad scope of intelligence and information.

It is probably unfortunate that each farmer, as a rule, attempts the production of too many articles. He is like a merchant who carries groceries, hardware, footwear, flour, dry-goods, drugs, and feed, and tries to keep posted in all these lines of business that he may better serve the public and himself. He is the captain of a ship in a constant storm, and seldom makes the port. If he would concentrate his energies upon a certain specialty, like the rays of the sun brought to a focus, he could be more thorough and would accomplish better results. And it would follow that each man, as well as his family, would have more leisure time for study and general reading than the common farmer now has, who is driven from daylight to dark with the multitude of his varied tasks.

The common impression is that the farmer has only to turn the sod, drop the seed, and sleep while the harvest is coming. But no; he must study the seasons, be skilled in interpreting the clouds; he must know the effect of heat and cold, wet and dry, the

chemistry of soils, the varieties of seed; must plow and sow at the right times, and be quick to take advantage of any circumstances favorable to him. He must know the necessity for the rotation of crops, and never find himself a season too late for this. Then there are diseases of animals, each having its own peculiar ailments, requiring different treatment. The educated farmer applies the discovered remedies; the ignorant buries his dead and bewails their loss. The farmer's insect enemies, too, are legion, and eternal vigilance, coupled with scientific knowledge, alone prevent universal destruction of all crops. Hinges break, and he must be a blacksmith; dinginess creeps over his house, barn, and implements, and he must be a painter; horses are lame, and he must be a veterinary surgeon. If he is esthetic, he will learn landscape gardening. His farming will be very unsatisfactory indeed unless he knows enough of book-keeping to make his debit and credit entries and balance his books at the close of each year. He will be surprised, if he is an observer, to see how closely the instinct of his animals borders on the intelligence of their conversing companions, and to what extent this instinct may be cultivated.

The partner of his joys and sorrows vies with him in vigilance and study. Her work is never done, if his is. Her toil is as early, as late, and as laborious. Happy if they be blessed with a hearty, joyful companionship of boys and girls to save the thousand steps so easy for the nimble, bare-footed boy when father's step grows slow. The merry whistle enlivens the farm, and snatches of song cheer the house. "And they shall grow up as olive plants about his table." The girls love the farm, the boys love farming. They are safe. The fashions and follies of the world have no allurements for them. That education is of the broadest extent and noblest character that shall produce this contentment in the minds of the farmers' children. It is a spot but one step short of heaven, where father, mother, son, and daughter sit down in happy contentment around the well-spread board, and afterwards, with books and papers, spend in joyful rest the closing hours of an industrious day.

The well-painted machinery is housed, the stock is in comfortable quarters, plenty abounds in granary and cellar, fruit and grain are quietly filling and perfecting in garden and field, the alert watch-dog guards the gate, and all is rural peace and conscious joy. The swimming moon looks down serenely on this happy spot, and the angel of peace tarries to pronounce upon the farmer's home the Father's blessing, ere she hastens upon her errand of love.

GETTING ON IN THE WORLD.

BY SECY. I. D. GRAHAM.

IN these latter days, when the youth has attained a sufficient degree of maturity to cause him to seriously begin to contemplate the duties and responsibilities which lie before him in life, he is always confronted by the difficult question of what vocation to choose. Being a man implies some sort of success in life, and, as the bread and butter question is always an important one, the temptation comes, only too often, to let it become the paramount problem, if not the only one to be solved in attaining success.

Provision for daily necessities is an imperative duty, and the selection of any vocation which does not have this in view is a mistake which may cost years to rectify. The selection of a calling with this one object only in view would be a much more serious mistake in attaining real success, and may never be rectified.

Success in life means more than mere eating and drinking (a mule can be successful in this way), and a most important element in providing for any future success will lie in the proper selection of the life work. Only too often is this selection made at hap-hazard and a vocation chosen which appears a pleasant one, or one which differs from anything before experienced—one in which growth beyond the elementary stage is impossible. The result of such a selection is and must be failure.

In this busy, buzzing, bustling world in which we now live the young man who would succeed must be prepared; not only this, but he must be thoroughly well prepared or he will go down in the struggle to which he was born. The old days when a young man could succeed to his father's vocation without regard to capability, and be sure of at least a reasonable degree of success, are gone. The days when a vocation could be selected at hap-hazard and without natural ability or proper preparation are also gone, as are the days when marked success waits on plodding effort without intelligent special training.

The very foundation of success in after life, then, must be in a proper selection of a vocation. To accomplish this, one needs a thorough all-round educa-

tion, an education that will serve to develop all the powers with which the individual has been endowed; that will develop the mental, moral, and physical natures equally, harmoniously, and at the same time. Without such a development, the young man is unable to select for himself that which should be his life work; with it, he may choose; without it, his life will be a long, continuous struggle to avert disaster; with it, he can command success. This kind of an education has been named "industrial" because it develops the hand and eye as well as the mind, and does it in such a manner that the product is not lop-sided.

With a good industrial education obtained in a few years and at little cost, the young man is fitted to select his life-work as he could not otherwise have been, and, should circumstances compel him to abandon any thought of the special education which should follow this, and which is so desirable to marked success in life, he will find himself vastly better off in all that goes to make true success than his neighbors who have not had his advantages.

Even should one of the so-called learned professions claim him, he will be a better minister, a more successful physician, or an abler attorney by reason of the hold on humanity which comes to him through his training of all his abilities and capabilities in a harmonious manner in an industrial education.

Narrow Tires, Bad Roads.

Look at our wagons. The hind wheels cut exactly into the same ruts which the front wheels have made. Why? It looks to me thus: Because the front wheels do not cut deep enough into the road-bed! It would be all right had we steel rails on our roads, but a dirt road cannot stand such usage.

All this can be prevented by a reasonable and proper construction of our wagons, carriages, carts, etc. A wagon should have wheels with wide tires. The two front wheels should be set under the wagon about thirty inches apart. The hind wheels should remain in their places as they are now. If this is done the hind wheels will roll down the outside ridges left by the front wheels, and both front and hind wheels will cover the tracks made by the hoofs of the horses, and instead of cutting the road to pieces, smooth the same. The front wheels might be even ten inches wide, and the hind wheels twelve inches.

It is claimed by some that such a wagon will draw hard, but experience shows quite contrary. The objection has been, "These wagons will look clumsy." This is a matter of fashion, and when people are accustomed to them they will think, on picturing to themselves the wagons of other days: "What odd wagons they used to have." A few years ago when pneumatic tires for our bicycles were unknown to the world, everybody admired the wheels as they then appeared. What do people think now after the broad, clumsy pneumatic tire has become universal? Why, no one will ride one of those small-tired wheels of bygone days if he can help it.—F. L. P., in *New England Farmer*.

Small Things in Farming.

Perhaps more than those of any other land, the farmers of this country need the warning to "despise not the day of small things." Living in a country of vast areas and almost boundless resources, and with a record of material progress unexampled in the history of the world, it is not strange that they should have something of the spirit of their surroundings. Under such conditions it is only natural that the intelligent farmer should be inclined to neglect details and give his thought and effort to the management of business along lines of ever increasing magnitude. Though it is not strange that the feeling which has been indicated exists, it does not follow that it is wise to allow it to become one of the governing principles of life. There are many small things which need looking after, and which cannot be safely sacrificed to what are considered the larger interests. The history of all lines of business goes to show that it has been largely by attention to minor matters that men have been prepared to win success in more extensive fields. They have made gradual progress along a path that has not always been pleasant, and that has never been free from difficulties.

Like other men, farmers would rather attend to large than small things. They are apt to think that if they had more land and a larger amount of capital, they could greatly increase their profits. But it is necessary to deal with many things as they are. They may not be satisfactory, but they are beyond our control, and it is far wiser to make the best of them than it is to spend time and strength in complaints that they are not more favorable. Besides, if the farmer could make a radical change in his environment, there would still be various obstacles to success. Even under favorable conditions, the old saying that "there is no great excellence without great labor" holds true. And there must not only be labor, but the labor must be performed at the right time and in a skillful manner. Success cannot be secured by means of a single effort, though that effort be earnest, or even desperate. If it is to be obtained it must be won by long-continued toil and close and constant attention. The farmer who is

constantly on the watch for ways in which to improve the methods and increase the efficiency of his work, and who keeps an eye on details, attending to the small things as well as the large ones, is doing far better than is one who neglects what seemed to be trivial matters while seeking something far out of the ordinary course of affairs. In order to reach success, it is necessary to make the best of present circumstances as it is to plan for the improvement of conditions which are unfavorable. Careful use of the one talent which has already been given is the surest way of developing the small accomplishments of the present into distinguished achievements in the future.—*Practical Farmer*.

The Hired Man Problem.

One of the most perplexing problems the farmer meets is the difficulty of securing competent, reliable farm help. Shorter hours, poorer service, and less intelligence prevail to a greater extent than for years past. An error that lies at the bottom of this subject is the common impression that it requires no brains or training to make a farm laborer, and no effort toward advancement is put forth by the average farm hand. Another mistake for which the employer is responsible is the practice of classing all farm hands alike or nearly so, and adhering to an unyielding range of prices in wages paid. By that practice the shiftless fellow is paid too much and the careful, man not enough. The average farm hand could, by careful intelligence, make his services worth twice the common run of wages. But it requires brains, and brains rightly used, to fill any position well and merit promotion.

The field is never crowded for those who excel. No man has better opportunities or surer prospects for promotion than the farm hand, if he only proves equal to the occasion and rises to the best that is in him. Would that I could impress this upon the great army of farm boys and hired men. The time is already coming when farmers will see these things and discriminate against shiftlessness and in favor of brains, industry, and integrity. And the difference in wages is only beginning to widen. It pays to think, study, and grow, aside from wages, because it takes all these to make the man.—*Farm and Dairy*.

Care of Farm Implements.

A writer for the *Prairie Farmer* lays down a code of rules for the care of farm implement so stringent and to the point that to one familiar with the well-nigh utterly wasteful system of care and management of farm machinery prevailing in the West seems like a brilliant light from out of great darkness. He would have all implements brought to the buildings every night where, if no other purpose is served, the tightening of bolts and putting in fine order for the next day's work would alone compensate for the trouble involved. He urges that the hot sun after a heavy dew is injurious to wood, while rusting of the iron may occur. In this relation advice is given that has long laid fallow in the editor's mind, and he offers this advice as a substitute. We would add to the suggestion that around the tool room should be shelves for the placing and handling every little tool needed on the farm. Such an arrangement is needed more than the tool chest.

In the tool house there should be an assortment of nails, screws, bolts, open links, snaps, buckles, rivets, and the like. In half a day I made a large chest out of a box, and in this are compartments for all these things. When one has all sizes and numbers of these articles it is a pleasure to make any small repair, and "a stitch in time saves nine." Hammers, wrenches, nippers, etc., should be kept in the same place, and then no machine need leave the barnyard in the morning without being in trim for good work.

Hoes are not used much now that we have weedeaters and other implements, but when used they should be bright and sharp. The same is true of shovels. A good file should be kept handy. Then boys and men will not dread to use tools, if necessary. It seems to me almost a sin to give a boy a rusty and dull hoe when learning to work. He will naturally learn to hate work. Put it in better order for him than for yourself, if possible. For personal comfort and for the sake of your pocketbook take the best care of implements of all kinds.

A man cannot be successful in any branch of business from farming down to managing a railroad or governing a country unless he works by a system. He must plan his operations in advance. If he doesn't there will be innumerable hitches and delays in his progress, every one of them entailing loss and disappointment. The difference usually is that the banker or railroad manager recognizes this immutable law and plans accordingly, while the majority of farmers persistently ignore the necessity of having definite plans to work to, and because they do not work systematically lose enough in one way or another to have changed the balance of profits onto their side of the account. It is this haphazard, unsystematic way of trying to do business that keeps thousands of farmers from being successful.

The value of a farm depends almost upon its production, and the farmer who continues cropping his land without returning to the soil the full equivalent of the plant food taken from it, cannot count as profit the apparent net result, for instead of profit it is in reality a portion of his capital stock. His farm is his bank; its fertility is his deposit; and every pound of vegetable or animal product that is taken from it to market is a draft upon his deposit.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds a. par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Pres. Fairchild today attends a meeting of the State Board of Education in Topeka.

Mr. Harry Crocker, of Chicago, visited College Monday with Mabel Selby, Fourth-year.

President Fairchild is on the program of the State Teachers' Association at Topeka in December.

George Logan, First-year, broke his arm one day recently in exercising on the rings in the gymnasium.

A considerable number of students, representing nearly if not all the political parties, went home to vote.

Prof. Will contributes to the November *Arena* a paper on "Political Corruption: Its methods, and How to Defeat It."

The scant "visible supply" of coal today makes it necessary for the INDUSTRIALIST to postpone printing until Monday.

The Students' Republican Club paraded Monday evening, and later attended the meeting at the Opera House in a body.

The transit of Mercury today was not seen by many persons, a strong glass being necessary to bring it into view.

Prof. Hood spent Thursday and Friday in Topeka, investigating the compressed air system of power in the Santa Fe Shops.

Ed. H. Webster and W. H. Steuart, Fourth-years, are in attendance this week on the Y. M. C. A. Convention at Ottawa, as delegates from the College organization.

The football eleven was beaten at Abilene on Saturday by a score of 24 to 0. The Abilene boys excelled in tackle and interference, and our team was not "in it" from the beginning.

Honorary members of the four literary societies have been asked to contribute to the fund for furnishing the new rooms. Responses are in the main satisfactory, and show many hearts to be in the right place.

The season of farmers' institutes is almost here, two being held simultaneously at Oneida and Hays City, November 22nd and 23rd. The College will be represented at Oneida by Professors Popenoe and Hitchcock, and at Hays City by Professors Mason and Mayo.

The students and visitors were yesterday during the public hour entertained by the Fourth division of the Third-year Class with declamations as follows: "Bill Nye on Dogs," A. L. Peter; "The Cloud," Ellen Norton; "The Pullman Strike," H. N. Rhodes; "How Beauty Got on Earth," Hattie Paddleford; "Nature," W. A. McCullough; "Two Sides to the Question," C. S. Marti; "How to be Beautiful," Gertrude Havens; "Higher Education in America," A. H. Morgan; "Sunset," Clara Newell; "Anarchy," C. E. Pincomb. The exercises were opened by the College Orchestra, and pleasingly varied with a quartett, "The Moon is Brightly Beaming," by Emily Pfeutze, Rena Helder, Gertrude Lyman, and Mabel Selby.

GRADUATES AND FORMER STUDENTS.

S. N. Peck, '87, of Topeka, is the happy father of a daughter.

G. W. Wilden, '92, is in the Santa Fe shops at Raton, N. M.

H. W. Mattoon, student in 1889-90, is studying medicine in Topeka.

C. L. Marlatt, '84, writes of "The Buffalo Tree-Hopper" in the current number of *Insect Life*.

K. C. Davis, '91, Principal of Schools at Austin, Minn., thinks the autumn there the finest he ever saw. He's from Kansas, too.

Geo. Doll, Third-year in 1893-4, of Garden City, will read a paper at the Teachers' Institute of Finney County on "Vertical Writing."

Helen Green, student in 1889-90, now attending Washburn College, Topeka, is just recovering from an attack of typhoid fever. Her life was at one time despaired of.

Arnold Emch, special student last year, now in the Engineering Department of the University, writes in the *University Quarterly* on "A Special Class of Connected Surfaces."

Minnie H. Cowell, '88, having obtained after four years' service a certificate from the London Temperance Hospital, has gone to Luxor, Upper Egypt, to spend the winter season of six months as nurse at

the Luxor Hotel, a cold weather resort for invalids. She sends her photograph in nurse's uniform.

F. R. Smith, '93, proved his histrionic ability in the role of a Confederate Captain in "The Girl Spy," given in Manhattan last week under the auspices of the Sons of Veterans.

C. A. Campbell, '91, instructor in logic and rhetoric at the Auburn (N. Y.) Theological Seminary, writes of genuine delight in his work and never-ceasing interest in his Alma Mater.

J. N. Bridgman, '91, for two years past a student at Leland Stanford University, Palo Alto, Cal., stops at College for a few days on his way to Atchison, near which place he will engage in farming on the "home acre."

C. A. Murphy, '87, Superintendent of Kingman Schools, writes of prosperity. He is searching for a text-book on Botany for the high school, and thinks of using elementary lessons with Kellerman's Flora of Kansas in connection as a manual.

Jane C. Tunnell, '88, again makes her home in Manhattan with her parents, Mr. Tunnell being engaged as pastor of the Congregational Church. Bessie Tunnell, student in 1892-3, remains in Wichita to finish her course in June at Fairmont College.

Miss Bertha Winchup ['91] entertained a small party of intimate friends last Saturday night at her home on Houston street. The company organized itself into a progressive conversation club and a very pleasant evening was passed, refreshments being served at the usual hour.—*Nationalist*.

The Sunflower Clock.

The famous Sunflower clock, seen and admired by thousands in the Kansas Building at the World's Fair, has found a permanent abiding place on the east wall of the library reading room. This clock is a Riley County product, and is presented to the College by the ladies of the Riley County Columbian Club. It is enclosed in a beautiful case of quarter-sawn oak, and bears on a large silver plate the following explanation:—

PRESENTED TO THE KANSAS STATE AGRICULTURAL COLLEGE.

THE SUNFLOWER CLOCK.

Made from one piece of native walnut with petals inlaid of osage orange, used in the Kansas Building at World's Fair, Chicago, 1893.

DESIGNED AND PRESENTED BY

THE RILEY COUNTY COLUMBIAN CLUB.

Mrs. Geo. C. Wilder, President.

Miss Rowena Whaley, Secretary.

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EXECUTIVE COMMITTEE.

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Mrs. Lew Hayden,

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Mrs. H. C. Crump.

Grounds and Buildings.

The College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing towards the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard, and sample gardens attached, the whole being surrounded by a durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape gardener, while well-graveled drives and good walks lead to the various buildings. All of these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recreation rooms are excellently lighted and ventilated, and are all heated by steam or hot water. A complete system of sewerage has been provided.

College, 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices, reception room, cloak rooms, studies, chapel, library, reading room, kitchen laboratory and dairy, sewing room, society rooms, printing office, and twelve class rooms.

Chemical Laboratory, one story, 26x90 and 46x75 feet of floor space, in form of a cross. It contains eight rooms, occupied by the Department of Chemistry and Mineralogy.

Mechanics' Hall, 39x103 feet, two stories, and 40x80 feet, one story, occupied by wood and iron shops music rooms, iron foundry, lumber rooms, etc., in addition.

Horticultural Hall, 32x80 feet, one story and cellar, having cabinet room, class room, and storage, with greenhouse attached.

Horticultural and Entomological Laboratory, with propagating houses attached.

Museum Building, 46x96 feet, and two stories high. This building, which has served many purposes, is now fitted for an armory, drill room, and veterinary laboratory below, and for class room and laboratory for Department of Botany and Museum of Natural History above.

Science Hall, containing the library, with ample reading rooms; class rooms and laboratories, and cabinet room for zoology, entomology, and botany; and suitable rooms for the various College societies.

Appropriation is also made for a central steam plant, to furnish heat and power for all the buildings. This plant is to cost \$14,000, and will be completed in the fall of 1895.

The farm barn is a double but connected stone structure, 50x75 feet and 43x96 feet, with an addition of sheds and experimental pens 40x50 feet. A basement, having stables for 75 head of cattle, silos, engine room, and granaries, underlies the entire structure.

The horticultural barn is a stone building, containing store-room, granary, and stables for several horses.

The foundries, lumber house, implement house, piggery, and various out-buildings are of wood.

Two stone dwellings, occupied by the President and the Professor of Agriculture.

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emelie Pfeutze; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembly, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Secret; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

November 2d.

The Alpha Beta Society was called to order by Vice President Elva Palmer. Music, duet, Misses Fryhofer and Gilkerson, followed by prayer by A. C. Havens. Mary Finley, H. C. Rambo, and Mary Willard were initiated. H. B. Graves read a selection on "Good Citizenship." Kate Zimmerman delivered a declamation telling in her earnest way of the character of Mary Stuart. A poem by Alice Shofe was read by the author. The absence of President Phipps was explained in a humorous song by the grand chorus, but when encored they "never came back any more." The discussion on the question, "Should copyrights and patents be granted to authors and inventors?" was led by A. C. Peck on the affirmative and Ernest Smith on the negative. The question was ably discussed on both sides. The first division had produced an excellent number of the Gleaner, which was presented by J. J. Fryhofer. Cornet and violin duet, Rambo and Fryhofer. After recess the celebrated Alpha Beta comb quartette favored the Society with some of their exquisite music. A number of live questions were discussed under extemporaneous speaking, and after a short business session the Society adjourned.

J. B. S. N.

November 3rd.

Half-past seven o'clock found the Websters in the usual place, with Pres. Smith in the chair. Roll call was followed by prayer by W. H. Steuart. Mr. Landgraft was elected a member of the Society. Debate, "Resolved, that the newspapers are more responsible for the financial depression than the present administration," was argued on the affirmative by E. A. Eggleston and C. P. Scott; on the negative by C. Farman and J. E. Trembly. The affirmative argued that the newspapers by their misrepresentation of facts and exaggerations were at the bottom of the trouble. Undue excitement was caused, and the result was depression and suspension of business. The negative answered by saying that the newspapers merely stated the facts as they were, and that the real cause was the uncertainty as to what the new administration would do. Many facts were cited on both sides to substantiate their points. The Society decided the question in favor of the affirmative. S. M. Strawn delivered a humorous declamation in a very pleasing manner. The Reporter, S. A. McDowell editor, was up to the usual standard. Among the articles it contained were "A Present Webster—A Future Pedagogue," "A Chronicle," "College Colors," etc. Messrs. McCauley and French favored the Society with some fine music. Mr. McCauley as soloist accompanied by Mr. French on the autoharp. Mr. Tennyson, in an essay, described a few of the most popular out-door sports. "Have an Ideal" was the subject of a speech delivered by C. W. Pape. It showed much thought in preparation. J. V. Patten discussed Roberts' Rules of Order in a unique way by asking questions on points of order of the various members.

E. H. W.

November 2nd.

The Ionians were called to order by President Thompson. Congregational singing, followed by prayer by Gertie Rhodes and the roll call. The program was opened with a song by Minnie Lyon, who accompanied herself on the guitar. Louise Spohr made us shiver and laugh by turns, at her account of the visit of a ghost to the children's dormitory, but the duet by Rena Helder and Laura McKeen, which followed, dispelled all thought of ghosts and spooks, and carried us away on the wings of fancy to the home of the mermaids. Lillie Dial's oration showed her poetical talent, and gave some good advice to Ionians. Next on the program was an original story by Ada Zimmerman, which was followed by a vocal solo, "Last Night when the Nightingale was singing," by Mabel Cotton, who though a Third-year had never before let the Society know that in her they possessed a valuable addition to their already long list of singers. The Oracle, with "Variety is the Spice of Life," for its motto, was read by the editor, Maude Kennett, and the motto was certainly well illustrated in this edition, for in it was discussed a great variety of topics, from "A letter from the man in the moon" to the Hamilton Anniversary. The next feature of the program was something new and original, a dialogue, written by Harriet Vandivert, and acted by Minnie Spohr as "Nell Henderson," and Mabel Selby as "Louise Stacy." The scene was in the room of these girls who were college students. The play was bright, witty, and yet gave some good hits on school girl follies. It was certainly a success, and Miss Vandivert and the girls who

acted it are to be complimented. The Society was pleased to have a visit from our well-beloved and often missed honorary member, Mary Lyman, who, accompanied by Rena Helder at the piano, gave us a song; and in response to a hearty encore sang "O Trust the Boy Whose Motto is 'My Mother,'" accompanying herself on the guitar. After this our visitors were called upon for talks, and responded with words of encouragement, advice, and good wishes.

E. E. N.

Three Millions for Manual Training.

Manual training in San Francisco has just received an impetus from Mrs. Charles Lux, of that place, who has just died. She bequeathed the enormous sum of three million dollars, one-third of her estate, towards "the promotion of schools for manual training, and for teaching trades to young people of both sexes in the State of California, and particularly in the city and county of San Francisco—it being my desire to assist in furnishing facilities for the education of young children from the time they leave the kindergarten schools, and while they are still quite young, in what is known as 'manual training,' and in all kinds of training looking to the acquisition of useful trades by and through which habits of industry will be acquired and practical knowledge of those things which are useful in earning a living may be acquired; and I hereby give to my said trustees the fullest discretion in the expenditure of said net income, so that the greatest good may be accomplished, and to that end they may, if they think best, use such portion of said income from time to time as they deem expedient in connection with the public schools in aid of the ends aforementioned."

The Influence of the Weather on the Mind.

The psychology of the weather is suggested by Dr. T. D. Crothers as a promising subject for study. He says in *Science*: "Very few persons recognize the sources of error that come directly from the atmospheric conditions on experimenters and observers and others. In my own case I have been amazed at the faulty deductions and misconceptions which were made in damp, foggy weather, or on days in which the air was charged with electricity and thunder-storms were impending. What seemed clear to me at these times appeared later to be filled with error. An actuary in a large insurance company is obliged to stop work at such times, finding that he makes so many mistakes which he is only conscious of later, that his work is useless. In a large factory from ten to twenty per cent less work is brought out on damp days and day of threatening storm. The Superintendent, in receiving orders to be delivered at a certain time, takes this factor into calculation."

What Cooking Means to a Woman.

Ask a woman what cooking means. It means the patience of Job and the persistence of the Pilgrim Fathers. It means the endurance, the long suffering, and the martyrdom of Joan of Arc. It means the steaming and the stewing and the baking and the broiling, thrice daily, springs, summers, autumns, and winters, year after year, decade following decade. It means perspiration and desperation and resignation. It means a crown and a harp and a clear title to an estate in heaven. From her judgment and reason she must evolve triumphs that depend upon salt and pepper and sugar and herbs. She must know how soon and how long and how often. She must know quality and quantity and cost. She must serve the butcher and the baker and the candle-stick-maker. Then she must rise above it all and be a lady—a loaf giver.—*New York Sun*.

Electricity for Weed Destruction.

One more beneficial use has been found for electricity. It is the destruction of weeds. The Illinois Central Railroad is the first to employ it for that purpose, in order to keep down the weeds along its lines of railroad. Not only has electricity been found serviceable for weed destruction, but the cost is much less than when it was done by hand labor. It has cost the company in the past about \$40 per mile to destroy the weeds. With electricity, five miles of weeds can be killed in an hour at a very small expense. A brush heavily charged with electricity runs along about eight inches above the ground, and every weed with which it comes into contact, however big and strong, is immediately killed, and turns black as if frozen. We shall hope to see a similar appliance in use on our country roads in the near future.—*Canadian Farm Journal*.

Farmers would find it pays to keep an exact debt and credit account with every crop. It is only in this way that it can be satisfactorily ascertained which crops are the most profitable and which yield no profit at all. If one carries a memorandum book in a side pocket, a page account with each crop can be easily kept without much trouble or loss of time. The habit once formed, the task becomes easy. Have no guesswork about your farming. Know what you are working for, and find out how to work to the desired end. Have a specific purpose in everything you do.

Does this, from *Colman's Rural World*, state a fact? Readers of the *INDUSTRIALIST* are invited to answer concisely: "The fact of the matter is that one-half the farming population would be better off if working under an employer who could not only give them instructions as to what to do and how to do it, but as well insist upon their doing things his way instead of their own."

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The October number of the *Washburn Mid-Continent* is a beauty.

The *State Normal School Monthly* publishes cuts of the floor plans of its new \$50,000 "wing."

The *Hutchinson School and Fireside* is now a monthly, and undoubtedly the neatest educational publication in the State.

Campbell University at Holton has purchased a five-inch refractor telescope which is able to bring the moon within five hundred miles of the earth.

The Kansas Academy of Science will meet in annual session at the Agricultural College at Manhattan December 26, 27, and 28. The program is not yet announced.

The extension work of Kansas University has begun earlier than ever before. At present three courses are being given: two on Evolution, by Chancellor Snow, at Leavenworth, and at Kansas City, Kansas; and one before the Lawrence extension society, on Modern German Literature, by Professor Caruth. Paola people have arranged for a course of lectures by Professor Dunlap, who is also wanted at Wamego, where a course will probably be arranged. Professor Hopkins will probably begin a course of lectures at Fort Scott before long.

The Washburn College paper publishes the following piece of impertinence: "Professors should have some higher aim in view than merely to draw their salaries and fill their 'chairs.' It is their duty to exemplify in themselves, especially in the class room, those practical principles which they wish to inculcate in their pupils. We beg leave to remind two or three of our professors that promptness is one of the most important of these. We are willing, though it does sometimes seem rather long, for them to practice on us for the full hour which is assigned them, but when the gong sounds we seriously object to remaining five or ten minutes longer under their instruction. Please take notice!"

Professor Wilkinson of the State Normal School, who has been studying pedagogics in Germany this summer, has visited Bremen, Hanover, Göttingen, Eisenach, Weimar, Blankenberg, Schwartzburg, Paulinelle, Rudolzburg, Leipsig, Dresden, Berlin, Hamburg, Paris, Oxford, London and vicinity while abroad. He spent most of his time at Jena, with Professor Rein and others, studying systems and methods. Several of his letters home were printed in the *Emporia Republican*. They are models of chatty correspondence, and were heartily enjoyed by his friends. The Professor was not enthusiastic over "Unter den Linden," for he prefers a look down Merchants street, Emporia, to it all.

THE STATE TEACHERS' ASSOCIATION.

The 32d annual meeting of the Kansas State Teachers' Association will be held in Topeka, December 26, 27, and 28. The program for the three days has just been issued, and is filled with interesting features. The papers opening each subject in the day sessions are limited to twenty minutes. The discussions announced will be limited to five minutes each, so as to leave ample time for the further consideration of each topic. Members who paid fees last year are required to pay but 50 cents, the annual fee; all others are charged \$1 as a membership fee. Persons wishing to make arrangements in advance for boarding places should address Eli G. Foster, Topeka, the chairman of the entertainment committee. The leading hotels will doubtless make the usual rates to teachers. The flag is to be competed for again this year. It will be awarded upon the same basis as heretofore, except that the number of teachers actually enrolled will be ascertained from certified statements by the superintendents of the counties competing. This flag is to remain in the custody of the Teachers' Association of the county to which it is awarded until December, 1895.

A library of fifty volumes is to be competed for again this year. The executive committee have accepted the offer of the Kellam Book & Stationery Co. of such a library, to be awarded to the county, the teachers of which have travelled the greatest total mileage, counting the distance from the county seat, said teachers being in actual attendance as certified by the county superintendent of the county. The company has placed a list of one hundred volumes into the hands of the executive committee, from which the county receiving the award may select any fifty volumes.

As to railroad rates, the executive committee is able to announce that the Santa Fe has agreed to a rate of one fare for the round trip at the time of the annual meeting of the Association. Tickets will be placed on sale December 25 and 26, with a return limit of January 2. The Rock Island has endorsed the action of the Santa Fe, and its tickets will be on sale the same dates and under the same conditions as those of the Santa Fe.

President Draper lectures on the theme in which he is particularly happy, "The Spirit of the Teacher." President Draper is one of America's leading educators and happiest platform speakers.

Robert McIntyre's reputation as a platform orator is world-wide, and is known to every teacher in Kansas. Both of these lectures will be given under the auspices of the Association. Regularly enrolled members of the Association will be admitted without charge to both lectures.

Teachers who attend the meeting of the Association are the better for the acquaintance they make with other teachers of the State. A great meeting at the Capital increases the influence of teachers throughout the State.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. The *INDUSTRIALIST* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums. Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

Stammering Cured

We make a legal contract with every pupil to cure him within twenty days or get no pay. GIBON'S STAMMERING SCHOOL, Massachusetts Building, Kansas City, Mo.

MANHATTAN ADVERTISEMENTS.

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FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

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ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

KNOTSMAN CLOTHING COMPANY offers a great variety of clothing and furnishing goods at prices to suit the student. Call without fail before buying.

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J. Q. A. SHELDEN, "the Jeweler," Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry and Gold Spectacles, also Musical Instruments.

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W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J. WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

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DR. C. P. BLACHLY, Dentist. The famed Odontunder used for painless extracting.

PHOTOGRAPHS.

D. EWEY, the photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue.

LIVERY.

PICKETT & LONG'S LIVERY STABLE.—Everything new, strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00 cash. Hair cutting a specialty. All work first-class at Pete Hostrop's Barber Shop, South Second Street.

GENERAL MERCHANDISE.

THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city. A complete grocery store in connection.

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C. A. GUNDAKER, Engineer.
A. C. MCCREARY, Janitor.
JACOB LUND, M. Sc., Fireman and Steam-fitter.

ASSISTANTS IN EXPERIMENT STATION.

F. A. MARLATT, B. Sc., Entomology.
F. C. BURTIS, M. Sc., Agriculture.
D. H. OTIS, B. Sc., Agriculture.
F. C. SEARS, B. Sc., Horticulture.
J. B. S. NORTON, Botany.
F. W. DUNN, B. Sc., Irrigation.

ONE REASON WHY THE MONEY QUESTION IS IMPORTANT. II.

BY PROF. T. E. WILL.

IN the rude beginnings of commerce and trade, exchanges are effected by barter. The hunter gives his deer or bear for the eggs, berries, or fish that another has at his disposal and desires to exchange for the products of the chase. This crude means of exchange long survives. Farmers still "swap" work, trade horses, barter butter, eggs, vegetables, and the like for dry-goods and groceries; but all are aware that barter is attended with serious difficulties. How many berries or eggs must be given for the bear or deer? In case the owner of the eggs or berries does not desire a whole deer or beef, or, worse still, in exchanging objects that are destroyed by division, how shall the traders make change?

Thus a medium for effecting exchanges is easily sought out. Among herdsmen and shepherds, cattle become money, "with pigs and sheep for small change." The highly developed society, however, demands a far more scientific money system; and gold, silver, paper, and various forms of credit paper have arisen to supply the demand. Without pausing at this point to consider the strength or weakness of these various forms of exchange medium, observe the imperative necessity of possessing some medium that, in addition to the work of "measuring values" and serving as a "standard of deferred payments,"—two highly important functions of money,—is capable of effecting the needed exchanges. With a money that will do its work, those having goods can exchange with others similarly provided, and social differentiation, at least so far as the producing and wealth-possessing classes are concerned, may go on indefinitely. Each may turn his attention to the particular trade, profession, or other calling for which his tastes and capabilities fit him, confident that, unless other disturbing factors interfere, there will always be a brisk demand for his labor or labor-product; and by thus specializing he will be enabled to attain a degree of skill and proficiency infinitely beyond that attainable by the "jack-of-all-trades" whom the proverb recognizes to be what scientific provision would have predicted, "the master of none."

Suppose, on the other hand, that in a highly organized society fairly well provided with an exchange medium, a considerable portion of this medium should be destroyed or withheld from circulation. Difficulty will at once be experienced in making exchanges. The demand for money will increase. More goods and services must be given in exchange for it. Debtors will be burdened, and creditors will reap an unearned reward. Grains that should have been exchanged for dry-goods will rot in bins, and warehouses while the dry-goods will cumber the shelves of the dealers. People will begin to talk of "over-production," while, at the same time, wealth-owners may be pinched by poverty.

If this state continues, the highly specialized producer will grow discouraged with producing a specialty that he cannot exchange for the various other supplies he needs. In consequence he will produce less of his specialty, and, for this reason, will find idle time upon his hands. This he will employ in supplying directly, as well as he may, those wants which heretofore the labor of others has supplied; he will decline to pay others to perform services for him that he can perform for himself. The iron-worker, for example, will try to do his own carpenter work instead of employing the carpenter; he will attempt gardening instead of buying his vegetables of the farmer and gardener; he will raise his own meat instead of buying of the butcher; his wife will do her own baking instead of employing the baker; she will make her own dresses instead of employing the services of the dressmaker; and she may even attempt, in time, to supersede the tailor and the barber.

This tendency to "do one's own work"—a tendency that no observant person can have failed to note in times of commercial and monetary stringency, is seen, when viewed from the sociological standpoint, to be of vast importance. Since all social progress is toward diversity and more and more minute subdivisions of labor, and since the above tendency is toward the abandonment of division of labor and the turning of the specialist into the jack-of-all-trades, it means nothing less than the breaking down of industrial organization and the returning to primitive methods of production; in other words, it means the whistling down of the brakes, the reversing of the engine, and

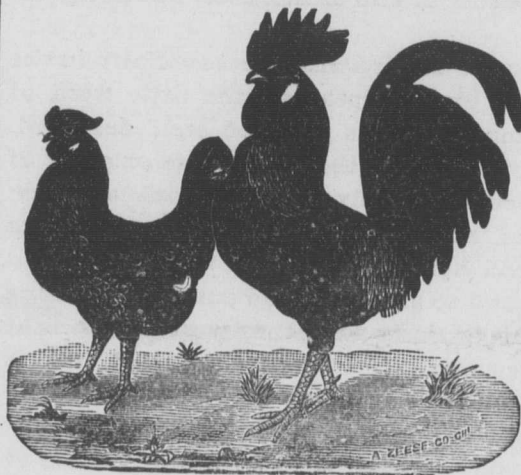
the starting backward of the train of human progress. The result, should this reactionary movement continue, could be nothing less than the landing of any civilization, however highly developed, in the night of barbarism.

THOROUGHbred POULTRY ON THE FARM.

BY M. A. LIMBOCKER, '95.

POULTRY on the farm is wrongfully thought of as secondary among its many products. Though there probably can be found on every farm a number of fowls, the owner rarely deems them of sufficient importance to justify him in spending a set portion of his time in watching and caring for the old hens.

On how many farms can be found a nice flock of pure-bred fowls, all of same plumage, build, constitution, and equal producing powers? They are not numerous. Instead, may generally be seen scrawny, ill-shaped, discolored, sickly, non-producing "dunghills" with which the flock is made up. If only enough eggs and poultry for table use are required, twenty or thirty hens, on a large range, will satisfy with but little attention. But if it is desired to breed poultry for the market, to give the best results thoroughbred fowls should be used. Compare the products of the common stock with that of one breed of fowls. The common variety will produce eggs of all the sizes, shapes, and colors a hen's egg ever assumed; and of the chickens for market probably no two will have the same build or color. A pure-bred hen will lay eggs of uniform size and tint, and the fowls have the same markings and form. The poultryman will increase the market price on the full-



LEGHORN TYPES.

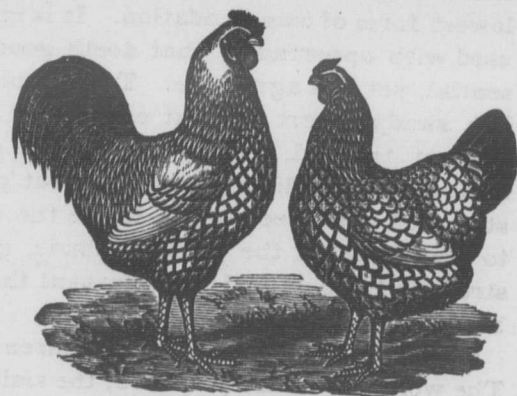
blood fowls over your neighbor's poor stock. The great packer and shipper, Mr. Armour, urges the farmers to raise thoroughbred poultry; he says they would be well repaid in substituting

pure-bred chickens for the ones generally owned, for the market price is much higher for dressed poultry if pure bred.

Study the qualities of the different breeds, and conditions under which they are to be placed, and pick out the breed (only one) which will best suit your wants and condition. Get the full-bred fowls, and with care in selection and breeding, there will be no trouble in keeping the breed pure; but if carelessness prevails, the stock will soon be unrecognizable as a distinct breed.

Some farmers object to thoroughbred stock on account of costing so much to start; but after a breeder has taken the trouble to select and pay heavily for certain points, he cares not to part with the fowls for a trifle nor will he find it necessary to do so. So if you do not feel able to pay his price for stock, do not think the price too high, but use another method for starting: you can procure eggs for sitting, which almost any breeder will let you have at a fair price if a number of settings are taken. Ten or fifteen dollars' worth of eggs will in two years multiply to a flock of four or five hundred pure-bred chickens of which any breeder would be proud.

As to the breed which should be chosen, a person should be able to decide for himself which best suits his purpose. One breeder will choose the so called non-sitting variety, because he believes the egg is the form in which he receives his reward. These breeds, such as the Leghorn, Hamburgs, Black Spanish, etc., are small, of light weight, and will bear confinement well; the consumption of their food goes toward egg production, not to forming flesh and they consequently are



SILVER LACED WYANDOTTES.

good layers. Another breeder will desire a chicken with a great amount of flesh, and will keep such fowls as the Cochins or Brahmas. These are poor egg producers, very heavy sitters, and are large fowls, the hens weighing from seven to ten pounds.

But a farmer needs a practical all-purpose fowl, and has had this for a great many years in the old Plymouth Rock, which is too well known to need comment here. The Wyandottes, a comparatively new breed, have made quite a record within the last few years, and are in great demand at present. The Silver Laced Wyandottes, with their plump bodies, beautiful plumage, and bright yellow legs, have some qualities claimed in advance of the Plymouth Rocks. They are medium in weight (standard calling for a hen weighing six and a half pounds), easily kept within a fence four feet high, and will become very tame; are good sitters, make the most faithful of mothers, but can be broken up easily if chicks are not desired. The chicks mature early, and with their fine, tender flesh make one of the most excellent table fowls; they are hard to excel in egg production, and surprise every one by the number of eggs layed in cold weather.

Taking these qualities in consideration, the Silver Laced Wyandottes are slowly becoming the universally acknowledged all-purpose fowl, and every farmer should own a good flock; then he would soon believe the "old hens" the best paying institution on the farm.

ONE OF THE MANY LITTLE THINGS.

BY ALICE RUPP.

IN these lives of ours tender little acts do more to bind hearts together than great deeds or heroic words, since the first are like the nourishing daily bread that none can do without, the latter but occasional feasts, beautiful and memorable, but not profitable to all.

How often do we make a mistake, especially in the case of children, by not speaking the little word of praise at the moment it is apt and well deserved. The little girl brings you the doll's dress or piece of patchwork—a representative of laborious stitches, pricked fingers, and nervous exhaustion, expecting you to commend her industry and her skill. You take the work and to all intent and purposes examine it, saying, "This is nicely done; the seams are straight and the stitches small." Instantly the tired look is lost in smiles, the eyes sparkle, with a hop and a skip the work is put away, and the happy heart is soon out of doors enjoying the song of birds, the fragrance of flowers, the fresh grass, and the bright sky.

The boy overcomes some temptation—a very small matter regarded from your point of view, but to him it may be the very foundation of a useful life, gaining as he must the strength of the temptation he resists. Is it unchildlike for him to look to you for some expression of gratification or approbation of himself, since the pleasure of the wrong or unwise act has been foregone?

Appreciation is something for which every heart hungers, and to which every one has a right; for is it not the natural sequence of the performance of good deeds, the possession of good qualities, and without which the effect of our action or possession upon ourselves alone, at any rate, is perhaps incomplete. A domestic said once, in speaking of a deceased mistress with respect and affection, "It was a pleasure to do anything for her, for whatever it was, great or small, she always had a bright smile and a hearty 'Thank you.'"

"Why do you suppose grandma has so many friends?" asked a little girl. "Every body likes her." "I can give you one reason," answered her mother; "she is always grateful for every kindness, and never hesitates to manifest her appreciation of the slightest favor—a flower, the loan of a book, the placing of a chair, whatever it may be—by a prompt and heartfelt recognition of any attention, any personal thoughtfulness on the part of others."

Praise is a great stimulus, and like others of its class if indulged in to excess it defeats its purpose, is enervating and culminates in flattery, the worst and lowest form of commendation. It is moderate praise used with opportunity that doeth good; it is not essential, yet it is agreeable. The Arabian crosses the hot, sandy desert without enjoyment other than the hope of the end, but the occasional oasis with its spring of sparkling water, its great palms with outstretched arms seeming to invite the weary traveler to rest beneath the cooling shade, gives renewed strength to go on and is a pleasant thing to remember.

Men and women are only children grown large. The word opportunely spoken, the smile of approval, or the cheerful nod of approbation has tempered

many a hard task, smoothed the rough path, and made life endurable. Going through the State Prison of West Virginia in company with the Superintendent, he picked up a piece of iron which had been fashioned by one of the convicts in the blacksmith shop. He turned it in his hand, looked at the prisoner and said, "That is a first rate piece of work, John," and it was skillfully wrought. The Superintendent remarked to us afterward, "That was a very small saying, but it will have its effect on John. He will work like a Trojan and be a model of behavior for two months."

Mr. Dana, editor of the *Sun*, appreciates the desire for approval in mankind. Although seventy-five years old, his eyes scan every part of each day's paper, "not less sharp for points of defect than for points of excellence, but his tongue is ten times quicker to praise than to blame. He values the true, honest motive, although the effort is only partially successful."

What is true of the individual is true of the whole; from the farmer boy who plows a straight corn row, the lady who entertains "beautifully," the scientist who has given to the world a clear solution of some complex question, the student who prepares each day's work well, all enjoy the "well done" with the faithful performance of the task.

Praise, though pleasing, should not under any consideration be the end or purpose of all good, thorough, ardent, sincere work. The duty is present, and the conscientious effort should be made for its performance and completion just the same whether the act is or is not recognized. Every seed planted is not harvested, neither should every duty carry with it an expectant reward. The very conditions of the present day American life, the speed, the restless energy, the pressure of a complex industrial life, seem to leave but little scope for the lesser obligations.

All cheerful experiences are in fact of use in molding character, and a temperament colored by early happiness carries a person through life much more easily than one which has been made morbid and melancholy by unpleasant and uncomfortable happenings. Then let us each try to provide for others some of these pleasant experiences, one of the least of which is the expression of approval or the little word of praise.

THREE NEW BOOKS ON DAIRYING.

BY PROF. C. C. GEORGESEN.

THERE have come to my desk recently three works, treating of various phases in dairying, all of the highest merit and practical value for all classes of dairymen. It may interest our readers to review them briefly.

"A. B. C. in Cheese Making," by J. H. Monrad. This little book was first issued in 1889, and the volume under consideration is the second edition. The author's name is sufficient guarantee of the excellence of the work, as he stands in the front rank of dairy authorities in this country. It has been the author's aim to adapt this A. B. C. especially to the needs of cheese-makers. It is intended to encourage the development of the home dairy, and to this end it gives full and specific directions for the making of ten or a dozen different varieties of cheese. Nor is it altogether an A. B. C. It contains points by which even expert cheese-makers may profit.

It is a mistaken notion that cheese cannot be successfully made in a small dairy with the number of cows that can be kept on the average 160-acre farm. When the cheese-maker understands his or her business, cheese of excellent quality, which will bring good prices in the market, can be made here with almost the same certainty of success as in a large cheese factory. Nor is it at all a difficult matter to acquire the necessary skill. The utensils needed are few and inexpensive, easily within the reach of any farmer. The one great necessity in making good cheese is careful, painstaking attention to details. It requires no argument to prove that a well-managed home dairy is the most remunerative form of farming, at least in localities adapted to dairying, nor is it necessary to prove that good cheese is a wholesome and nutritious article of diet, which ought to be much more appreciated among our farmers than is the case at present. Cheese is now regarded almost as a luxury, owing to its high price when bought in the groceries. In European dairy countries, cheese is one of the most common articles of food.

The book contains many illustrations of the implements and utensils used, and it also has portraits of Professor L. B. Arnold, the pioneer investigator of dairy questions in this country; of Mr. Joseph Harding, the father of the cheddar system of making cheese, and of Dr. S. M. Babcock, the inventor of the Babcock test, which has given such powerful impetus to improvements in dairy matters. Every farm-

er's wife and daughter interested in dairying should have this little book. The price is fifty cents. The author is now editor of the *National Dairyman*, Kansas City, Mo.

"American Dairying," by H. B. Gurler. This is another book of high merit. It deals with practical butter-making on the farm and in the creamery. It is up to date in all particulars and details with marked clearness the best methods of procedure in handling milk and the manufacture of butter. The author is a well-known authority on dairy matters, not only as regards the science of the work, but he is a practical butter-maker, who tells in plain terms how to make first-class butter.

The book is divided into two parts. Part I. treats of private dairying and how it can be made successful on the hundreds of thousands of farms, large and small, throughout the country. Part II. treats of creamery management and the manufacture of butter on a large scale. The book is admirably adapted as a guide for butter-makers, whether it be the housewife on the farm or the manager of extensive creameries. It is published by J. H. Sanders Publishing Company, Chicago, Ill.

A third and highly valuable work on dairy matters is the "Principles of Modern Dairy Practice." It is by a foreign author, Professor G. Grotenfelt, who is President of an Agricultural College in far away Finland. But the work has been translated by Professor F. W. Woll, of the Wisconsin Experiment Station. As the title indicates, the book deals with the principles which underlie all success in dairy practice and to but a slight extent with the details of the work. It treats in popular language of the numerous and varied forms of bacteria which play such important parts in determining the quality of butter and cheese. The work is largely the result of the author's investigations in dairy bacteriology, but it also gives frequent references to the results of other investigators in this line of science. The author shows how important it is to give the strictest attention to cleanliness in all stages of dairy work, and points out the many sources of infection through which injurious bacteria may find access to the milk and cream, and by their rapid multiplication defy the skill of the butter-maker. He describes the process of pasteurization by which injurious bacteria can be held in check, and how to use the pure cultures of bacteria employed to give the desired flavor and aroma to the butter. These improved methods in dairy practice are now in common use in leading European dairy countries, especially in Denmark.

This work has a mission in this country. It is a pioneer in scientific methods. It points the way along which improvement in dairy matters must take place. The author has enlarged upon several subjects, especially for this American edition, and the translator, Professor Woll, has added numerous foot notes, referring chiefly to the results of investigations by dairy bacteriologists elsewhere. It is a book that everybody interested in the dairy can profit by studying, and it is especially adapted to teachers and managers of creameries. It is published by John Wiley and Sons, New York City.

The Horse Your Friend.

This being so, be sure to keep the harness soft and clear, particularly inside of the collar and saddle, as the perspiration, if allowed to dry in, will cause irritation and will produce galls.

The collar should be fit closely, with sufficient space at the bottom to admit your hand; a collar too small obstructs the breathing, while one too large will cramp and draw the shoulders into an unnatural position, thus obstructing the circulation.

Never allow your horse to stand on hot, fermenting manure, as this will soften the hoofs and bring on diseases of the feet; nor permit the old litter to lie under the manger, as the grass will taint his food and irritate his lungs, as well as his eyes.

Do not keep the hay over the stable, as the gasses from the manure and the breath of the animal will make it unwholesome.

Kindness will do more than brutality; therefore, do not use harsh words to your horse, or lash, beat, or kick him. Bear in mind that he is very intelligent and sensitive, a willing servant, and deserving of your kindest treatment and thought.

Remember that horses are made vicious by cruel treatment; that it is speed which kills; that more horses are lame from bad shoeing than from all other causes; that a careless application of the whip has blinded many horses; that more fall from weariness than from any other cause, that no animal should ever be struck upon the head.—*Colman's Rural World*.

Most farmers neglect the garden. They think they have not time to attend to it. This is a great mistake. It should receive careful attention, as the great source of food supplies for summer use. There is no part of the farm that pays better than the garden when well tilled and stocked with a variety of vegetables.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Thanksgiving Day—a holiday—falls on the 29th.

Regent Street is elected to the Legislature from Decatur County.

A daughter was presented to Prof. and Mrs. Hitchcock on Saturday.

Mrs. Agnes Fairchild-Kirshner, of Kansas City, is here for a visit with her parents.

The "cold snap" of Friday found everything of a perishable nature safely housed.

The program for the Alpha Beta annual exhibition on December 7th is well under way.

Mrs. Haise, of Russell, Kans., spent Monday and Tuesday visiting her son in First-year classes.

President Fairchild shared in the dedication exercises of the Topeka High School building last evening.

Miss Harper read a paper before the Domestic Science Club yesterday on "How to Study History."

J. M. Wheeler, First-year, goes to his home in McPherson County today for the winter, business calling him.

Prof. Willard's family are comfortably housed in their handsome new residence at the southeast corner of the College grounds.

Hon. S. S. Kirkpatrick, of Fredonia, the newly elected Congressman from the Third District, visited his sons at College on Thursday.

The Board of Education of Beloit, Mitchell Co., refunds its indebtedness of \$10,000 in the State Agricultural College Fund this week.

Regent Secrest was a visitor at College Wednesday morning. He takes his recent defeat gracefully, and proposes to "continue business at the old stand."

The College will be represented at the Second Annual Convention of the Kansas Irrigation Association to be held at Hutchinson November 23rd and 24th.

The College has bought and placed at the head of the herd the fine Jersey bull Torquil II. 24808. This fine animal is purchased from Mr. B. C. McQuesten, of Ottawa, Kan., and is deeply bred in butter records.

Prof. Georgeson has an inquiry for a competent man to establish and conduct a creamery at a small town in this State. Persons who feel themselves competent to take charge of the work should communicate with him.

Election being past, it is only reasonable to expect better lessons for the remainder of the term; for the average student is more or less of a politician, and cannot do his studies justice in the heat of a campaign.

The Farmers' Institute advertised at Hays City for November 22d and 23rd has been postponed two weeks, or until December 6th and 7th, on account of the Irrigation Convention at Hutchinson on the dates first named.

Prof. Will in the Economic Lecture yesterday treated the subject Capital, giving various theories as to what constituted capital. The theory that anything which contributed to the welfare of humanity was capital, was fully discussed by the speaker.

Principal L. M. Cook of the Dickinson County High School with his corps of teachers, consisting of Mrs. L. M. Cook, Miss Stockhouse, and Messrs. Carter, Denny, and Atwater, were interested in visiting the various departments at the College Monday.

Our foot-ball team met the Fort Riley eleven at the City Park on Saturday last in a "practice game." The visitors excelled in point of weight and strength, and after unavailing efforts to get through the center, the home team found its advantage in running around the ends, which was successfully done many times. The score was a tie at 10-10.

"The Principles of Modern Dairy Practice from a Bacteriological Point of View" a neat volume of nearly 300 pages, is packed full of information as to the best dairy practice in Denmark and Sweden, by Gösta Grotenfelt of Mustiala Agricultural College, Finland. The book is translated by Prof. F. W. Woll of Wisconsin University. Anyone interested in the facts and principles of butter and cheese making will find the volume worthy of study.

Notes From the Botanical Department.

The Department feels very free in the large and pleasant new rooms after several years of life in the cramped quarters of the old Armory building.

The classes in First-year botany are endeavoring to find the generic names of our Manhattan plants by

the aid of an artificial key to the plants in their fruiting condition.

The dry weather this summer hindered a great many wild plants from fruiting, but an unusual number of plants that normally flower earlier in the year have bloomed this fall, and altogether vegetation has developed wonderfully since the rains.

A great interest has been taken by those connected with the Department this fall in embedding and cutting sections for the microscope with the microtome. Results can be obtained in this way that would be impossible with the primitive method of cutting sections by hand with a razor.

A number of botany experiments have been in progress with weeds and other plants native to Kansas in the botanical plats. Some valuable notes have been obtained, but the dry weather has seriously interfered. It seems to be a not well-founded notion that most weeds continue to thrive under conditions that are unfavorable to cultivated crops.

The open herbarium cases allow one to easily see the extent of our herbarium, but at the same time admit dust and other enemies to dried plants. It is hoped that the excellent herbarium that we have can be better protected in the near future.

Constant additions are being made to the herbarium, 1400 plants from various parts of the United States, received from the Department of Agriculture this summer now being mounted. As usual several species new to the Kansas herbarium have been found this year, and students will probably bring in more this fall, especially those who live away from Manhattan and obtain part of their collection from home.

J. B. S. NORTON.

GRADUATES AND FORMER STUDENTS.

Susie Noyes, '93, has been sick for several weeks at her home near Wabauunsee.

C. J. Peterson, '93, attended the anniversary of the Hamilton Society, of which he is an honorary member.

Fred Knostman, student in 1890-91, is visiting at home. He is house salesman for Henry W. King & Co., wholesale clothiers of Chicago.

G. E. Stoker, '90, for a year past a "rising young lawyer" of San Francisco, has returned to Topeka, his home, and rumor has it that he and C. J. Dobbs, his classmate, will form a partnership for the practice of law in the Capital City. Mr. Stoker was a candidate for Justice of the Peace on the Republican city ticket of San Francisco, but his party was defeated there.

The following from the Wagoner (I. T.) Record concerns a member of '88: "Mr. S. S. Cobb's drug store has been removed from the corner, and work has begun on his mammoth brick. This is a large enterprise, and it would be a creditable structure for any city of the land. Its erection shows the thorough business methods and wide awake qualities of this firm. Mr. Cobb is a deserving man in every sense of the word, and he has many friends with whom the Record joins in congratulations on his success and prosperity."

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Ionian Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emelie Pfuetze; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. C. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembley, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Secrest; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

November 10th.

On occasion of the tenth Anniversary of the Hamilton Literary Society, the new Hall was filled to overflowing with members and invited guests to participate in the event. A home quartette by Messrs. Johnson, Lyman, Rambo, Brown and Wheeler, opened the program. Fortune favored the Society in that it was possible to obtain an honorary charter member in the person of J. H. Criswell for the opening address. In his discourse he gave a detailed history of the Society and its work from the time of its organization up to the present event. He stated the conditions under which the Society was organized; how the young Society was opposed on all sides, but by continued perseverance they finally won, secured a State charter, and became a flourishing Society; that the new room is a great step in the Society's life and the members should be quick to take advantage of the opportunities offered and ever strive to elevate and sustain the high standard of the Society. F. R. Smith, an honorary member, followed with an eloquent address in which he spoke of benefits and advantages of good Society training; how on the present members rests the great heritage begun by their

predecessors; that in the vocations of life, we find use for our Society training, and the members should endeavor to place themselves in close touch with the work of the Society. In response, W. H. Painter clearly pointed out that this is a suitable occasion to celebrate; how the Society owes its high position to earnest work of former members; that we are endeavoring to carry out our inheritance and raise the standard still higher. Next, H. Brown and C. W. Lyman entertained with mandolin and guitar music. The question for debate, "Resolved, that the national policy of Hamilton was superior to that of Jefferson," was affirmed by W. L. Hall. The affirmative, in a logical course of reasoning, showed how Hamilton's views and measures were far superior to those set forth by Jefferson. In sustaining the negative, W. Anderson showed the fallacy of many of Hamilton's measures, while history speaks for the Jefferson policy. A declamation entitled, "The Little Hero," by G. B. Norris, was rendered in a very effective manner. The Hamilton Recorder, with A. L. Peter as editor, had for its motto "Don't be a Fool." Some of its contents were: "Locals," "Value of Society," "How a Prep Came to College," "It's Fine," "Where Do You Live," and "Interviewing the Faculty." The program ended with a guitar duet by C. W. Lyman and B. W. Conrad. Mrs. Kedzie being requested to talk, gave an impromptu speech, in which she discussed the Societies of College, and gave many encouraging remarks to Society workers. E. C. J.

November 9th.

The program of the Alpha Beta Society was opened by music, guitars and banjo, Messrs. Buck, Conrad, and Lyman. Devotion by R. W. Clothier was followed by a quartette, A. E. Ridenour, W. N. Coffey, Elva and Inez Palmer. An oration on the Negro's Prospects was delivered by R. W. Rader, a declamation by Florence Martin and an essay by Mr. McCullough. The next was a new feature in the way of a triangular discussion of the following question: Which will have the best influence on men in general: learning, wealth, or character? The side of learning was presented by Jennie Ridenour; Fannie Parkinson sustained the cause of wealth, Mary Painter that of character. The good influence of each on mankind was well brought out, and showed that these three things must work together for the best. Duet, Adelaide and Josephine Wilder. Inez Palmer presented the Gleaner under the motto, "Non-partisan, but strictly Morrill." After the usual recess Maude Mannen sang a solo. We next proceeded to business. Among this was the trial of Mr. Buck and Mr. Jones. The gentlemen were found not guilty. Assignment to duties. Reading of minutes, and roll-call, which showed a full attendance. After a duet by Mary and Hattie Paddleford, the Society adjourned.

J. B. S. N.

November 10th.

While the attendance at the last session of the Webster Society was not all that could be desired, those present made up in enthusiasm what they lacked in numbers. The result was a session which was interesting throughout. Society was called to order by the Corresponding Secretary, who appointed C. D. McCauley to the chair. J. E. Trembley and C. Colby filled the other vacancies. J. B. Dorman led in devotion. Uhl and Moore argued the affirmative, and Dorman and Steele the negative of the question, "Resolved, That religion has been the chief factor in civilization." The debate showed rather more preparation than usual, and was entertaining to such a degree that one member far exceeded his allotted time. The affirmative showed how prominent a place religion has been accorded in all civilization, while the negative gained the question by showing the importance of numerous other factors, such as climate, science, etc. H. E. Potter rendered a humorous declamation. In an essay by J. C. Curry were shown some of the evils of the liquor traffic. Mr. Lee favored those present with a mandolin solo. G. C. Wheeler's oration on "Formation of Character" showed the practical side of the question and offered good advice. Extemporaneous speaking and a lively business session then followed, which lasted until the lights went out, causing a very undignified adjournment.

A. G. B.

November 9th.

The Ionian Society was called to order at the usual time by President Thompson. After congregational singing, prayer by Mary Wilkin, and the roll call, Nannie Williams was initiated. Hilda and Minnie Leicester entertained us with an instrumental duet in their usual pleasing manner, and then Sue Long, as the society "grumbler," grumbled at the girls about all their short-comings for the past weeks, grumbled at the Board for making her grumble, for as she said she found it easier to live without taking the trouble to grumble. Next came some lively music enjoyed by every one, Mr. Buck with a banjo, and Messrs. Lyman and Conrad with guitars. Being recalled, they gave another selection. Vice-president Wilkin was called to the chair. Next on the program was an original story, "The Squire" by Minnie Walmer, followed by a parody by Dora Thompson, the "special" wants of a Third-year girl. The Misses Pfuetze sang a duet, Rena Helder at the piano. Edith Lantz gave a new and original version of the old rhyme about Jack and Jill. The "Oracle," edited by Myrtle Hood, had for its motto, "Poetry is the gift of the Gods," and discussed among other things the political meetings held by the girls at the end of the "fifth hour" on Monday, the result of examinations, the First-year meeting and a Prep's experience. Gertrude Rhodes' instrumental solo was followed by a discussion by Carrie Staver, on the subject, "Do circumstances make great men, or do great men make circumstances?" Emelie Pfuetze gave a good report of current news. Mr. Correll played a mandolin solo, accompanied on the piano by his sister, Maggie. The Ionians will have to study parliamentary law a little

more if we have many such thorough quizzes as the one Cora Stump gave.
E. E. N.

Make the Farm Home Pleasant.

Why is it that many people so under-value the occupation of farming, and prejudice or embitter the minds of the children against it, so that they are often scarcely grown to man or womanhood ere they are laying plans for "something better," as they term it, or have already flitted from the home roof to seek employment of a questionably "wider sphere" in the cities and towns? Why cannot these farm-houses be made so attractive that little short of a cyclone could drive them from it? I do not think even the farmers themselves realize what all-important factors they are in the well-being of this work; or they would be inspired to greater endeavors to systematize and dignify their calling.

No class of people so much require a scientific and classical education, cemented together with sound, hard common sense and judgment.

Many have the erroneous idea that only those who are unskilled and ignorant, and can make a success of nothing else in life, are the ones to manage a farm. It is for this reason that we have so many unsuccessful farmers in our country.

This train of thought should never be encouraged, but children should early be impressed with the true dignity and pursuits of farm life, and of the many pleasures to be derived therefrom when properly planned and conducted.

We do not expect all children of farmers to continue in the same pursuits, but we would wish a much larger per cent of them turned in that direction; and when we see a young man, as we occasionally do, go out to college, and after completing the prescribed course of study, return again to the farm, we have a great respect for him.

Let the farmhouse be supplied with pleasant and useful literature. Nothing will ever yield us so high a per cent of interest, as the careful, loving attention which lies within our power to bestow upon the proper education and culture of our young people. Let the house be made bright and cheerful, a place of song and harmless mirth.

Teach the children that it is as necessary to be courteous and well-bred upon a farm as in a city. It would seem that farmers ought naturally to be of all men the most talented and courtly.

The grange is doing a great work, while the near future will develop still greater results in the right direction.

A solemn responsibility rests with us each, and while, as parents, we should never allow the children to forget that we stand at the head, yet should we with loving and tender sympathy, in precept and example, so guide their young lives in cheerful, pleasant paths, that their hearts, at least, will never become estranged from the old homestead and its interests.

To quote from the Rev. De Witt Talmage, "A church within a church, a republic within a republic, a world within a world, is spelled by four letters—home!" If things go right there, they go right everywhere. The difficulty is that we are not satisfied with just the work that God has given us to do. The water-wheel wants to come inside the mill and grind the grist, and the hopper wants to go out and dabble in the water. Our usefulness and the welfare of society depend upon our staying in just the place that God has put us or intended we should occupy.—*Correspondent, Our Grange Homes.*

Aids to Happy Farm Life.

In the fall is an opportune time to make some improvements around the farmhouse. A cosy, cheerful home, with considerable outside attractions in the way of shrubbery and trees, enhances the value of the homestead and makes life more worth the living.

Copeland truly says: "A few flowers in the window, a border neatly trimmed and kept in the front yard, a vine trailing over the door, along the eaves or overhanging the architrave of the window are the best possible evidences that the dwellers in that house are, whether rich or poor, capable of rising above the troubles and cares of life to the higher and better regions of nature and God.

There are also many things doubtless that can now be done to add to the comforts of the inmates of the house. The window frames that are loose and rattle when the high winds prevail should be tightened, broken window panes reglazed and weather strips put around the outside of the doors. An excellent weather strip for the outside of the door frames is made as follows: Take common laths and wind around them list, which is worn by tailors from the edge of cloths, close the door in its natural position and nail these strips close against the door frame, letting the edge of the covered lath come snug against the door at the sides and top. A piece may also be fastened on the door sill in the same manner. Though some women do not like it, as it is somewhat troublesome to sweep dirt over. There is not half the social enjoyment among farmers there should be. Winter is a good time to commence a reform in this respect. Attend to such things about the house as will lighten the work of the women. Make things more convenient, put up some swinging shelves in the cellar, make some bins for the apples and vegetables. Let the women make suggestions regarding what they require in the way of improvements.

The man who can sit before a good fire on a howling cold winter's night and feel that he has done everything possible to make his home snug and comfortable and know his stock is properly stabled, has that within him that doubles his enjoyment. A clear conscience is a great factor to bring true happiness, and if there is any place on earth where such should ex-

ist, home-life on the farm should be the place, where the beauties of nature enable us all to live near to nature's God.

Now Let the Family Read.

The long winter evenings are already upon us, and the question must come to many families, how shall these evenings be spent so as to bring the greatest enlightenment and pleasure to the family fireside. During the summer months the days are long and there is much work to do on the farm; and in most cases every member of the family is compelled to put forth all his strength in doing the work which spring, summer, and autumn make necessary about the place; but from now until the leaves begin to bud again, from two to three hours each evening may be spent very profitably around the fireside. It is as much ones duty to have reading matter in the house as it is to provide food and clothing. Food for the mind is just as important as food for the body. Of course, there are people who never read, who live to a good old age, but their usefulness is impaired, and they lose much of the real pleasure of living.

Cast about for good books. They are much better for the children than bad companions. They can be bought for almost a song. Subscribe for some publication which will be full of good reading matter. Some families make a practice of spending at least half an hour each evening in having some one read aloud to the others. This is a very good practice, as it affords opportunity for developing reading aloud with correct pronunciation. Reading matter, of course, should be chosen so as to have something which should interest the different members of the family.—*Farm and Fireside.*

Short Courses at Agricultural Colleges.

In recent articles a high estimate has been put on the value of farmers' institutes, the meetings of agricultural organizations, agricultural lectures and reading circles, and agricultural papers. It must be admitted, however, that for those who can avail themselves of the privilege all these fall short, in value, of attendance at a school or college with special equipment for giving instruction along agricultural lines. The incentive which comes from daily companionship with those engaged in like study; the greatly increased value of systematic instruction; the better libraries and collections of apparatus; the opportunities of having difficult points at once explained—all these give the school or college preference over any other method of gaining instruction in many lines. It is assumed that the instruction will be accompanied or followed by practice. The farm is the best place to acquire skill in farm work. Work in a good butter factory will probably be more helpful in acquiring dexterity in the practical details than will the work practically possible by a student at the best of dairy schools. But for learning principles, and what is the best method, the school is greatly superior.

The present purpose is to call attention to the short courses now offered during the winter months at many agricultural colleges and to commend these to the attention of young men who have neither the time or money required for fuller courses. Those short courses cannot give a complete education; not even a complete training in any point, but they may be most valuable helps and starting points. In most cases students are admitted without payment of fees, or only small fees are required. The conditions of entrance so far as examinations as to scholarship are concerned, are also made as easy as possible. In a majority of cases special attention is given to instruction in dairying in some form, but there are also colleges which have more general purposes. In almost all the Central Western States arrangements have been completed or are in progress for one or more short courses at the agricultural colleges during the coming winter. Generally these will commence after the new year opens. We urge young farmers to write for information about the work proposed at the colleges in their own or adjoining States.—*Prairie Farmer.*

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.
2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.
3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.
4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

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MECHANICAL TRAINING.

BY H. K. BROOKS.

WITH some people an impression seems to prevail that mere training of the hands is all that is necessary to make a mechanic. They ignore apparently the idea that learning a trade requires brain, and, to excel, the cultivation of ear and eye as well as touch. By practice one may be able to manufacture an article to given size and dimension; but only by mechanical intuition is one enabled to give to a piece of machinery the strength in required places without sacrificing the symmetry of form or uniformity of finish. The sculptor sees not the rough block of marble which he chisels with skillful touch, but chips and smooths to reveal the statue already existing in his mind. So with the mechanic; the same impulse gives impetus in producing from the shapeless mass of wood, iron, or brass, the intricate and complicated machine. The studios of Europe, the works of Michael Angelo, Rubens, or Paul Veronese, do for the artist what the shop does for the mechanic: they are useful in producing painters of pictures and makers of machines. Comparatively few, however, have the touch of the master hand or the artistic merit that comes from the intuitive spirit dwelling within. There is in mechanical work just as distinctive a touch as is revealed by the comparison of the pictures of the master's with the cheap reproductions of the same. The "finish" of the work denotes the attainment of the man in both cases.

Then, again, the ear also requires training in mechanical work. One must be able to detect a flaw in a piece of metal or to judge the tension in girder, beam, and rivet by the sound unaided by the eye. The leader of an orchestra stops the rehearsal because his trained and cultivated ear has heard amid the thunders of the organ, cymbal, and horn a discordant note from the tiny flute. So with the trained mechanic an unnecessary pounding or grinding is at once apparent to him, and grates upon his ear amid the hum of gears and spindles seemingly in "confusion worse confounded." I have known artists who would suffer hunger rather than sell some of the works which they produced. And I have known mechanics to visit at every opportunity the place where some of their creations were at work, and get from their visit as much satisfaction and pleasure as if they had met a near relation or very dear friend.

In every branch of industry and art there are pleasures which are not at first sight apparent, and which are not revealed but by a careful training and culture along the line of work one loves most. Speaking of the touch of the mechanic, it is claimed that a machinist of Waltham can by merely rolling a small steel ball between thumb and finger detect a variation from true sphericity amounting to about 1-37 part of the thickness of the paper upon which this is printed.

Let us, then, seek to cultivate the interesting and attractive in every trade or calling of life, and not disparage any particular industry that is honest and legitimate.

A NATIONAL ACADEMY.

BY PROF. O. E. OLIN.

LAST spring at the instance of Lew Wallace, a bill was introduced in Congress by General Black of Illinois, providing for what might be called a National Academy.

The bill proposes that three members of the House and three members of the Senate, appointed by the respective presiding officers, shall constitute a committee to select five citizens of the United States who, in their judgment, are eminent in literature, science, invention, or the fine arts. These five are to elect twenty others, and with them form the "Academy." The twenty-five members so elected are to serve for life, with the power of electing members to fill vacancies caused by death. It is thus, when once established, a self-perpetuating body. The only duty laid upon the members is that they render to Congress opinions of literature or language referred to them by either house. In consideration of this they are to be provided with a "commodious room" in the new government library building.

At the time of its introduction, the bill attracted little attention and no discussion; but it is possible that we may hear more of it during the coming session.

No doubt General Wallace designed that this body of eminent men and women should be the fit curators of the great national library; that they should guard the standard of taste, and keep in their purity

our language, literature, and art. They should become a court of appeals for all the weighty matters of culture.

But, in consideration of our institutions, and in the light of the experience of other nations, do we want such a body? Would it be for the best interests of literature or art to establish a tribunal of twenty-five who should have, in a measure, the monopoly of criticism? Would the advantages derived from its guardianship, its inspiration, its authority, compensate for the loss of the freedom, originality, and democratic fellowship that now exist?

I think I should answer no, to all these questions. The best guardianship that art and literature can have is a master in every line. No literature is safer than was ours in the hands of the group of writers that has just passed away. Its conservatism is not needed, for public opinion always has enough of that to check any very radical tendency; while its inspiration becomes encouragement only after the battle has been fought and won.

France, Italy, Spain, Sweden, and Belgium have such academies, some of them being nearly three hundred years old, but when one considers the "learned trifling" that has occupied so much of their time, the jealousies aroused, the many times when merit has been passed by and mediocrity rewarded, he would not perhaps desire to see any more established on the same plan. It is true that Mathew Arnold lamented that England had no literary academy to preserve its language pure and keep its literature from provincialism. Yet, judging from the academies of other nations, the very men who made the language of England and nationalized its literature could not have found membership there. What academy in contemporary times would have elected among its "Immortals" William Shakespeare, John Bunyan, John Milton, William Wordsworth, or Robert Browning?

Varied criticisms, the views from different standpoints, will produce a healthier literary growth than the autocratic utterances of any privileged body. It is only when criticism becomes brutal as in early British reviews that one wishes to escape and put himself under authority.

The *Pathfinder*, of Washington, in commenting upon the proposed National Academy, raises the question, "Who are the twenty-five?" and calls upon all its readers to vote for their favorites in American literature. Would it or would it not be difficult for the average reader to write the names of twenty-five living American authors and give them their proper rank? Of course the choice would differ; and until the great scholars are agreed on the "Hundred Best Books" we ought surely to have some freedom in our lists. It would afford an evening's amusement in any family if the different members should write out the names of the twenty-five whom they consider most worthy and then compare the lists. Try it.

WANTED—A NATIONAL EDUCATOR.

BY T. E. LYON, '93.

THE sixth of November has come and gone, and with it has been ushered into the past one of the most disgraceful campaigns in the history of our State. What has been done that we may be proud of, should the historian record this campaign? What part can succeeding generations pick out, and with pride truthfully say, this act lifted up mankind, enlightened and ennobled him?

As each American sovereign settles back with a sincere "Thank God, this campaign is over," let us not forget that another one is coming, and that now, even before legislation begins, is the time for each patriotic American to put forth his best thoughts that the wounds of our Nation may be healed. No one of us may be able to prescribe a complete panacea, but if we each give our best, some master-mind will collect the materials given, and our Nation will reap the benefits.

As I think over the events of the past few months, two scenes stand vividly before my mind, which, if correctly drawn, might well represent the condition of our Nation today; and from them we might draw a plan of action which would tend to eliminate these difficulties and establish a higher plane of American citizenship.

In these scenes, I was a part of a great political gathering. In it were men of all parties and beliefs. As the meeting opened, this magnificent congregation of American sovereigns arose, and "My Country 'Tis of Thee, Sweet Land of Liberty" poured forth

as from the soul of one man. Swelling out, reverberating, it filled the air with one grand volume of love and patriotism. Every soul seemed stirred, filled with the same patriotic feeling, and I thought, as long as the hearts of the millions of America's sons can thus be united by the chords of one song, her government, her institutions, are as solid as the foundations of the great deep, and eternity will be the only measure of her existence.

A few hours, and the scene changed. Party lines had been drawn, prejudices aroused, wrongs magnified, labor arrayed against capital, and the government pictured as some powerful being holding in its grasp the destiny of the Nations while under its feet writhed the American citizen, worn out with labor and covered with poverty. Here I saw the seat of our disease and the needs of a "National Educator."

In the first scene, the hearts of the people were united because they were filled from a common source, one great fountain of American love and liberty. In the second, their minds were distorted and diseased because they were fed with the doctrine, pernicious at times, of a thousand and one office-seekers and political demagogues, whose highest aims were the securing of ballots; while America and the perpetuity of her institutions were placed on a plane far below.

Could the people's minds, like their hearts, be fed from a pure common source, our difficulties would be reduced to a minimum.

The plan for a national educator or magazine would be in brief this: a condensed, nonpartisan, weekly or semi-weekly American paper, issued free to every American home and school-room. Condensed, because the busy man requires it; non-partisan, that "its teachings might not be biased and the reader would be compelled to make his own decisions;" free, because it would be for the benefit of every American, and especially for those who cannot afford to pay for more than their county paper; American, because through its columns we would fill their whole beings with that patriotic love which thrills the heart as we sing our national song.

Let the editorship be fixed like that of the supreme bench, through life or good behavior, thus rendering it as far as possible non-partisan. Let its articles be from the very best economic writers and strongest thinkers of the day, and devoted to our national and international relations, and to those things that affect every American citizen, as the tariff, the coinage system, the troubles between labor and capital, and the workings of Congress.

We know that the whole progress of the world has been due to education, and it must be so now. Take, for example, the current history of a strike. First, it is a small affair, settled by the police; but it grows, and next time the State militia must put it down. It smoulders a while, and then breaks out with such fury that the national army must be brought into use to enforce the laws and protect property. It is put down, but is the evil cured? No. The power used, though right and necessary, only quells the outward demonstrations, and the agitator finds his task the easier and works the harder because more force has been required to hold his influence in check, and now he can make it appear that the government is arrayed against the laborer.

The educator, coming directly from the seat of power, showing the striker why the law must be supreme, showing him that the almost universal record of strikes prove that they injure none so much as him, and at the same time teaching him the true way to settle all such difficulties, would cause him, like all other Americans, to think rightly and to rely upon his own decisions; it would lessen the almost awful influences of doctrines that have been spread broadcast over our nation; it would enforce cleaner, more truthful statement in our local papers, and, best of all, it would bring the general government directly in contact with every American citizen, give an unprecedented impetus to education and culture, and make possible a concentration of thought and action among the American people that could not otherwise be obtained.

Beauty and Utility of Grass.

J. B. Killbrew read before the East Tennessee farmers' club an able address on "Clover and the Principal Grasses." While the author handled the subject as an economic one, yet he so well set forth the beauty of grass that we place it here as a plea for lawns. Around every farm house should be a well kept and rich lawn:—

"One of the most beautiful and charming things on earth is a landscape carpeted with green grass. It appeals at once to our sense of beauty and utility. Such a vesture is attractive everywhere, in the quiet

nook by the river side, on the wide spreading prairie, on the slopes of the mountain and in the deep valleys. It makes the beauty of the lawn, and is associated in our minds with the sports and pleasures of childhood. Grass is a synonym of restful ease, of peace and plenty. It flourishes in every climate. In the temperate zones it forms a soft, mossy, covering to the earth; in the tropics it grows to gigantic size; in the frigid zones numerous species grow and flower during the short summers, and retain their vitality beneath the thick ice-sheet that covers the Arctic and Antarctic regions. Of all the flowering plants grasses are the most universally distributed. There is scarcely a country on earth that they do not form the leading and dominant feature in the vegetable kingdom. Without grass there can be nothing but scanty and feeble life, for as bread is the staff of life, so wheat, rice, oats, barley, rye, and Indian corn are the kings among the grasses. Their seeds form the bread of four-fifths of the population of the globe."

Agriculture's Bright Side.

Mr. J. F. Keller is an earnest, intelligent, practical, and successful Ohio farmer. At a meeting of the Muskingum Horticultural Society, Mr. Keller delivered an address on the "Bright Side of Agriculture," from which the following extracts are selected, as reported in the *Ohio Farmer*:—

"The old familiar maxim, 'The world is what you make it,' is true, and finds a parallel when we say agriculture is largely what the individual farmer makes it. To prove this, we will not cite the wealthy farmer, in the full enjoyment of every luxury afforded by this bountiful land and diversified climate, and whose broad and fertile acres came as a legacy, and do not represent years of toil and economy, as do the holdings of most of us. Moreover, I will not cite Brown, Terry, Chamberlain, Bonham, and others who have risen to eminence in agricultural circles. With just pride I point to the thousands of farm homes in the great State of Ohio, blessed with an abundance of the good things of this life, bought by the enterprising hand of industry, frugality, economy, and stability, and where intelligence and refinement and love are the ideals of the family circle. It is said, 'What has once been accomplished can be accomplished again,' and to you, if there be such before me, who believe that agriculture has back-slidden from the palmy days of our forefathers, and are inclined to the opinion that farmers are not getting reasonable returns, as compared with the profits of other pursuits, I speak.

"There is something wrong with farming! And you would like to know what it is, and the probable remedy, if there be any. I am compelled frankly to say, and do it with due respect for my brother farmer, that the matter is not so much with the farmer. Many of the supposed ills to which some believe the business is subjected are more imaginary than real. A more definite knowledge of the operations and drawbacks of other classes of business would be a means of encouragement to many dissatisfied and disheartened farmers.

"In this age of bustle and push, farming is too tame a business, too monotonous, too slow. Some of us want to get rich in a year or two, and we expect to farm, with a very little labor, to make us rich. A moment's reflection will show how absurd this is. If we take the pains to examine the statistics carefully, we find comparatively few investments of equal capital that are returning larger dividends than the best-managed farms. A great majority are giving less returns, while a considerable portion are failing on any profit whatever. I cannot now recall a single enterprising business farmer, who manages to grow good crops, keep good stock, a neat, clean farm, etc., who is not getting ahead—doing much better than most merchants, as statistics show that 90 per cent of those engaged in mercantile pursuits fail.

"Far be it from me to begrudge labor fair and liberal compensation. The poor man's labor is his stock in trade. The popularity and permanence of our national institutions depends on well-paid labor. No blame to the laborer, still it takes double, perhaps treble, as much to pay the hired man for a year's work as it did years ago. We are partly reimbursed in the matter by the same amount of labor accomplishing a great deal more in a given time by the use of labor-saving implements. In times past a bushel of wheat or two bushels of corn was considered worth a day's work. It now takes three bushels of wheat or four bushels of corn to pay for a day's work.

"The few constitutional grumblers among us are usually the ones that deserve no better things than they are getting; thus shiftlessness and profligacy are responsible for much of their so-called misfortune. Their stock goes hungry and makes an unprofitable growth. Their barns are surrounded with filth of many years' accumulations of manure, while their crops languish from a lack of fertility. The farm is overrun with weeds and the fences tumbled down. The children lack education, so essential to successfully cope with the contingencies of life. This class of farmers (and I trust there are none such before me today) have a tendency to bring agriculture into disrepute and reflect discreditably on the character of our noble and worthy industry. Their lack of enterprise makes them constitutional grumblers, and were they engaged in any other business they would be the same, as no business, however lucrative, could prosper in their hands.

"I am fully aware that not one farm home in ten is what it ought to be with the opportunities God has given. A desire to add to possessions already abundant has made comfort, pleasure, education, refinement, I might almost add, love, strangers in the home. What a sad mistake fathers make in ex-

changing these things for acres to add to his boundary lines. With added acres come increased labor and care, not only for the father, but, for the entire family. Life is too short to spend much time in the accumulation of riches. By the time we get rich in this world's goods the scenes of this life are ready to close around us, and we never enjoy the anticipation of pleasures that wealth brings. Life is too short to take in so much.

"Brother farmers, I fear we are inclined to look on the bright side of other kinds of business and on the dark side of our own. City folks visiting the country are charmed with the associations of country life, not realizing the fact that sleek stock and fine crops represent much labor, a constant warfare against weeds and insects, and that drought and storm may blight the most favorable prospects and rob the husbandman of the fruits of his labor in a very short season. They see only the bright side of farm life. The young farmer visits the city and sees the fine business houses, with plate-glass windows filled with showy articles, which are rapidly turned into cash. The employer and the employee sport good clothes, while he contemplates soiled clothes and muddy boots on the farm. He sees only the bright side of commercial or professional life. The shop master on coming to his place of business must needs remove his careworn countenance and replace it with a smiling face and pleasing manner. The farmer enjoys sweet repose, while his crops grow and his stock thrive. The business of the merchant stops when his doors close, while thoughts of depreciated values and changing fashions rack his brain.

"Many times we hear young men on the farm say: 'I don't like the farm; the associations of city life are more suitable to my tastes.' Ah, my young friend, you have never looked into the sink holes of hell and slums of iniquity where the very demons of hell feast on fallen and lost manhood. The theatre, the public ball, the saloon and the gambling-house, and other resorts of vice are pitfalls that comparatively few pass in safety. You say these things could not entice you to wrong doing; you have too much character. So have said thousands of the noblest specimens of manhood, and yet they have filled a drunkard's or criminal's grave.

"Don't conclude that because a few bonanza fortunes have been made in the city in a short time you can do the same. Ninety-nine of you will fail to one that succeeds. More genuine privation and misery exists in five of the principal cities of this country than among the entire agricultural population. If you have a desire to become influential, nowhere will you find a better opportunity than in agriculture. All of the problems have not been solved, nor the depths fathomed, nor the secrets told. These are waiting for you, young man, and give an opportunity for the exercise of the keenest intellect and depth of research. My young friend, consider well before giving up the farm for the city. Remember, 'All is not gold that glitters.' Probably you have only seen the bright side of city life.

"And now, friends, when this day, with its pleasant associations, is over, may we return to our homes with a full conception of the higher and nobler purposes of life, resolving to be better neighbors, better fathers and mothers, better husbands and wives, better children. Let us be content with the sphere of action wherein He who doeth all things well hath placed us. May we prize the sanctity of the home, and by precept and example lead those whom an all-wise Providence has entrusted to our care and keeping to the attainment of all the essentials of good citizenship—industry, sobriety, morality, and regard for human kind. May we love our homes better, and strive to elevate the standard of agriculture by the adoption of better methods of farming. When we contemplate the manifold blessings of this life, may we give praise to Him who doeth all things well, and may the words of Washington find a lodging in every true patron's heart, 'Agriculture is the most healthful, most useful, and most noble enjoyment of man.'

Send boys who intend to become farmers to an agricultural college, as one of the great necessities of the farmer is a thorough agricultural education which will fit them to follow improved methods in farming, and to keep pace with the advancement of the times. But to become fully qualified as a farmer much will have to be learned outside of our agricultural college. The boy who intends to become a farmer can learn much about the occupation at the grange, at the farmers' institutes, and conversing with, or working for, some farmer who by his own exertion has become successful.—H. E. Cook.

The farmer, in whatever branch of agriculture he may be engaged, who neglects to study carefully the commercial aspects of his occupation, will fall far short of realizing the best profit that is possible from it. He must watch the markets, know when and where and how to sell, where to buy, the value of cash purchases, and all the detail that goes to the making of a successful market. All of which goes to disprove the saying that "any fool can farm."

A farmer's home, with house plants in the window, flowers on the lawn, and a succession of small fruits from a garden planned, planted, pruned, and protected with aid of wife and children, giving each child control of a particular plant, bush, or row, will do more to make children love the old homestead and keep the boys on the farm than all the precepts ever taught them.

A first-class animal is sure to bring a good price, says a writer, but he who has all first-class stock usually obtains "the top of the market." When they all seem to be of one mold, and that a good one, there are dealers ready to take them as a lot, and at your price.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds a. par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Mrs. Will, mother of Prof. Will, visited College on Friday.

Mrs. Agnes Fairchild-Kirshner returned to Kansas City today.

Mr. John Shea, of Clifton, in company of Dr. Lyman, visited College on Monday.

The special session of the Webster Society will be held this evening for invited guests.

Dora Thompson, Fourth-year, visited Miss Bessie Leland in Wamego, Saturday and Sunday.

Secretary Graham was made a Knight Templar by the Clay Center Commandery on Monday night.

Mrs. Long and daughter, of Leavenworth, spent Friday at the College, escorted by Lou Stingley.

Profs. Failyer and Jones represent the College at the Irrigation convention at Hutchinson this week.

Prof. Georgeson presents a paper at the meeting of the State Dairy Association at Topeka this week, and will drop in at the irrigation convention today.

The class in Fourth-year Agriculture walked over the farm on Thursday with Assistant Burtis, studying the many wheat experiments now in progress.

At the Farmer's Institute held at Oneida, yesterday and today, Prof. Popenoe talks on "Agricultural Entomology," and Prof. Hitchcock speaks about "Some Common Fungous Diseases of Plants."

A large number of students and several teachers accompanied the College football team to St. Marys this morning, to see the game with the Academy boys. A dispatch received shortly before twelve o'clock tells of the defeat of the visitors by a score of 28 to 0.

At the meeting of the North Central Teacher's Association, to be held at Abilene, November 29th and 30th, a symposium, "The Rural Teacher," will be presented. John MacDonald, editor of the *Western School Journal*, treats of "His Past Condition," Pres. Fairchild presents "His Present Status," and Pres. Taylor of the State Normal School prophesies "His Future."

The Fifth Division of the Third-year Class occupied the public hour yesterday. Declamations were delivered as follows: "Historic Spots," Mark Kirkpatrick; "The Need of an Elastic Currency," Elda Moore; "The First Principles of Reform," T. L. Jones; "Just Time to Think," Sue Long; "The Economy of Time," H. G. Johnson; "Patriotism," E. C. Joss; "A Far off Star World," Edith Lantz; "Cooperation," F. H. Meyer; "Adolphus and the Singer," Hilda Leicester; "The Coliseum," C. W. Lyman. Music was furnished by the College Orchestra and the College Mandolin Club.

Prof. Mason's father, after visiting with his daughter, Mrs. Cotey, at Logan, Utah, for several weeks, left there on Thursday of last week to return to Manhattan. His baggage reached here Saturday, but diligent inquiry by telegraph had not on Thursday of this week revealed Mr. Mason's whereabouts. Yesterday the officials of the Union Pacific Railroad reported that the ticket sold Mr. Mason at Logan had not been taken up, and that a man answering to the old gentleman's description had left the train at Mirage, a small station this side of Denver, and had been traced back fifty miles toward Denver. There seems to be no doubt that the stranger is the missing man, and word to that effect is expected hourly from Prof. Mason, who went west Thursday afternoon. Mr. Mason is old and feeble, and it is thought recent illness has affected his mind.

GRADUATES AND FORMER STUDENTS.

Selma Lund, student in 1892-3, teaches the Alert school.

S. N. Chaffee, '91, teaches school at Magic, this County.

A. Dickens, '93, writes endorsing irrigation in the Bushton (Kan.) *Star*.

Mary Bower, '83, was in attendance upon public exercises yesterday.

J. C. Dobbs, '90, of Topeka, spent a few hours at the College on Wednesday.

F. E. Way, Second-year in 1889-90, is a medical student in Kansas City.

J. F. Oile, '94, for three months past in charge of Mr. Morton's herd of imported Guernseys at Quar-

tine station, Garfield, N. J., takes it this week to the farm at Rhinecliff, N. Y.

C. C. Smith, '94, has a pleasant and successful school near Alma, Wabaunsee county.

Olive Drake, Second-year in 1893-4, is the successful teacher of the Still school in District No. 32.

P. S. Creager, '91, describes the Medicine Lodge Sugar Works in the last number of *Orange Judd Farmer*.

G. W. Smith, '93, yesterday piloted his cousin, G. H. Smith, of Washington County, through College buildings.

Susie A. Noyes, '93, died at her home in Wabaunsee November 13th after a three months illness from typho-malarial fever.

M. F. Hulett, '93, is to be married on Thanksgiving Day, to Miss Bradford, formerly of Eskridge, now living in Topeka.

A. A. Mills, '88, issues from the Utah Station two interesting bulletins upon feeding experiments with steers and with horses.

At the Joint Association of the Mitchell, Jewell, and Cloud County teachers, E. J. Abell, Fourth-year in 1893, read a paper on "Real Advancement vs. Apparent Advancement."

G. C. Clothier, '92, hopes to continue post-graduate study in botany and horticulture after after the expiration of his term as Superintendent of Wabaunsee County.

G. F. Hulett, Second-year, is obliged to leave College to take care of the home farm in Johnson county, his brother, W. W. Hulett, Second-year in 1879-80, having had his arm crushed in a belt.

Mr. Clayton Gaul, a student at the College in 1892, was visiting in this city over last Sunday, and surprised many of his former friends by filling the pulpit of the Christian church Sunday evening.—*Republic*.

C. L. Marlatt, '84, gives an account of "The Pear Tree Psylla in Maryland," and a paper on "Insecticides" in the current number of *Insect Life*, which is devoted wholly to the transactions of the American Association of Economic Entomologists in the sixth annual session at Brooklyn, N. Y., August 14th. Mr. Marlatt acted as Secretary of the Association.

F. W. Ames, '93, in a paper on "The American Schools and the American Laborer," read at the last meeting of the Riley County Teachers' Association, closed with this truism: "Finally, let the laboring man remember that the intelligent and educated man in any department of life is the best fitted to enjoy its blessings, endure its hardships, right its wrongs, judge impartially, and to live happily and peacefully with all men."

Charles R. Hutchings, '94, writes from Pomona of his intention to purchase a farm and settle down to rural life, where he may appreciate to the fullest extent the many excellent and practical lessons taught at the Agricultural College. When every young farmer in Kansas begins his life's work with such a broad and full knowledge of his chosen profession as is offered by the Kansas State Agricultural College, farm life will be not only the most attractive but that in which is found real living in the truest sense; and then shall the Agricultural College be realizing its intended purpose.

Training Woman for Her "Sphere."

Mrs. C. F. Wilder, of Manhattan, under the caption "The Club and College Idea," gives in the *Kansas Farmer* a brief history of the Domestic Science Club, with the merest hint of the good work accomplished in the fourteen years of its existence, its object being "to make better house-mothers, wiser, more intelligent women, better neighbors, truer friends, more careful mothers." The article closes with this tribute to the College:—

"I have been charmed each time I have been to our State Agricultural College, when I have seen the influence exerted over the hundreds of girl students in that institution exactly along in the line of this thought. Girls who never dreamed they had a spark of love for the domestic life, growing enthusiastic over the art of needle-work and the science of cooking. Not loving other arts and sciences less; not forgetting to get the literary education, but the domestic takes the place where it belongs, for, from the foundation of the world, God made woman to be the home-keeper, the house-mother. Every one knows how blessed a thing it is to have a love and enthusiasm for the work given into our hands. There is a great deal of surprise expressed that these two most prominent departments do not have better facilities for work. They need a building by themselves for work-room, laboratory, recitation rooms, designing-rooms, work-shop, kitchen, etc. Already six graduates from this College are in six different States doing the same work in educational institutions that is so well done here by Mrs. Kedzie and Mrs. Winchip, and each of these graduates boasts of better buildings and better facilities (with fewer students) for doing the same work, than we have in Kansas. Every one interested in our institution hopes the good time is coming for us when we can stand on equal footing, in regard to buildings, with other States in these departments as we now do in the quality of the work done.

"For each girl in our State the best thing I can wish for her is that she may attend, next year, this College. No sacrifice is too great. The expense is so limited; the opportunities so grand. Think about it; talk about it; plan for it."

To which the editor of the *Kansas Farmer* adds: "Mrs.

Wilder is the Vice President for Kansas of the National Household Economic Association (Mrs. Potter Palmer, President, and Mrs. Wilkinson, Acting President, Chicago). Of woman's work in the home she is greatly interested. Her interest in the Kansas State Agricultural College is simply because she lives at Manhattan, sees the good work done, and desires all young people to avail themselves of the grand opportunities offered to them; wanting this institution, which stands at the head of all Agricultural Colleges in our land, to stand at the head in every particular."

Shop Notes.

The Atlas engine, mentioned a few weeks ago, is now on its foundation and will soon take its share of the work of running the dynamo.

For some reason the coal ordered for the steam plant fails to come, and the College is compelled to take its chances with cold weather and a few loads of coal at a time ordered from town. A severe cold snap would find us at a disadvantage. About four tons of coal a day are being burned this weather.

A switch-board has been devised to be put in use in the electric plant. At present there is no way to break the current except at the individual motors. The device will be made in the department. Although it is a small affair, it gives practical work for the designer, draughtsman, pattern-maker, brass moulder, and machinist, and serves to illustrate the variety of labor required even in so small a machine.

The half-ton coal car has been finished by the boys and replaces the wheelbarrow, greatly to Fireman Lund's pleasure.

Most of the students who have been in the foundry this term will go into the machine shop next week.

ED. H. WEBSTER.

COLLEGE ORGANIZATIONS.

November 16th.

The Alpha Beta Society met as usual at 2:30 with Pres. Phipps in the chair. The house was well filled throughout the session. After a cornet solo by Mr. Rambo, J. B. S. Norton led in devotion. In an oration, M. G. Spalding spoke of higher student ideas. Elsie Waters contributed a story, and Adelaide Wilder gave a back review. May Willard read an essay on Superstitions. The question for debate was, "Do Church creeds keep people from becoming Church members?" E. Shellenbaum was on the affirmative and Mary Finley on the negative. The Society was next enlivened by a humorous song by Messrs. Coffey, Spaulding, and Smith. At our request they came back and played for us again. A good number of the Gleaner was prepared by the third division, Ernest Smith, editor. The sporting news for the week was presented in full, the motto being, "Line up." Recess, followed by a guitar and violin duet by George and Nora Fryhofer. Under extemporaneous speaking, the advisability of raising the platform was discussed, new members as well as old taking an interest. After this followed an interesting business session which proved very beneficial to the Society. After the routine was finished, Adelaide and Josephine Wilder sang a song and the Society adjourned.

J. B. S. N.

November 17th.

Promptly at half past seven Pres. Barnett called the Hamiltons to order. W. K. Blachley led the Society in devotion. C. W. Nelson was then initiated to membership. The evening's program was opened by C. E. Copeland with a declamation which afforded no little fun to the Society. E. M. Haise in an essay told some amusing experiences of milking "rampageous" cows. This was followed by another well-written essay on "The trials and tribulations of an inexperienced shepherd" by S. Adams. The debate was then taken up, "Resolved, that church property should be taxed." The affirmative was championed by C. S. Evans and C. M. Ginter, W. O. Peterson and M. R. Smith arguing the negative. Good arguments were produced on both sides of the question, the speakers doing it full justice. The Society, judging the debate, decided in favor of the affirmative. The Society now took a ten minute recess, after which B. W. Conrad rendered an excellent vocal solo, accompanying himself on the Hamp-Lo piano. He responded to an encore with another lively selection. Newsman M. L. Heckert presented all the important news of the week. T. V. Dial closed the program with a well read selection, describing a case of unmistakable identity. After the usual business had been transacted, the members proceeded to regale themselves with a genuine free-for-all Society "rag." Much interest was manifested; and not till the incandescents began to grow threateningly dim was adjournment considered.

E. C. J.

November 16th.

The Ionians were called to order promptly at 2:30 by President Thompson. After congregational singing, prayer by Louise Spohr, and roll call, the program was opened with a piano solo by Mabel Fielding, who responded to an encore. Maggie Correll then gave a declamation, "The Wine Cup," in a very entertaining manner. This was followed by a vocal solo by Lottie Eakin, accompanied at the piano by Lillie, and her song, "Why Did They Dig Ma's Grave So Deep?" was well appreciated, and she was recalled. Laura McKeen then read an interesting selection from Hawthorne, entitled, "John Inglesfield's Thanksgiving." Next on the program was a declamation by Gertie Stump, "The Ruins of Cyra," which was well delivered. This was followed by Rena Helder's vocal solo, Hilda Leicester at the piano. This edition of the Oracle had for its motto, "Man has his will, but woman has her way and the last word," and was almost a poetical number. Emelie Pfuetze amused every one by singing a version of "The Spider and the Fly,"

and in response to a hearty encore sang "The Days of Long Ago." Mable Gillespie as music committee certainly did her work well. Last on the program was the debate on the question, "Resolved, that the plank in the People's Party platform that provides for the decrease of officials' salaries in a ratio to the decrease of farm products, is antagonistic to good government." Ethel Patten, arguing on the affirmative, thought that as the officials had the same work to do no matter what the state of the crops, it would be unjust to cut salaries when there was a failure in crops. Good men are needed to fill the offices, and if they had a paying position they would not be apt to give it up for an office that did not pay. Miriam Swingle, for the negative, argued that in case of failure of crops, the farmer has to buy every thing just as the official does, and has no income with which to buy, while the official's salary is the same. It would be more just to give every one an equal chance. The judges, Nora Newell, J. V. Patten, and G. W. Smith, decided two to one in favor of the affirmative. After report of committees, business, propositions for membership, and roll call with quotations, the Society adjourned. E. E. N.

November 17th.

Society hall was filled with Websters last Saturday evening, all admiring the improvements made by the new floor matting and our furnishings just received. On calling the Society to order B. F. S. Royer led in devotion. Under the order of initiation of candidates, seven new members were added to our already long list. This speaks well for the growth and aggressiveness of the Society policy. "Resolved, that tariff is of more importance than temperance," was argued for the affirmative by S. F. Morse and T. F. Smelzer, who based their argument upon the importance which tariff has assumed in our political history and national welfare, and the relative degree in which the two subjects have affected the general prosperity of the people. J. B. Norton and E. L. Nichols for the negative denied that tariff affected the people to as great a degree as temperance, and brought forward statistics to prove the magnitude of the liquor traffic as well as the ruin wrought by it. They argued that, though not so demonstrative, the temperance movement has assumed great importance. Society decision in favor of negative. Declamations by W. T. Pope and R. W. Ashbrook, and select reading by R. W. Bishoff were followed by an entertaining discussion on the Press Club and its methods of intended work by F. J. Smith, which caused considerable general discussion. L. W. Hayes furnished music in the form of a vocal solo by himself. T. W. Morse appeared with a well written oration which called forth hearty applause. A. G. B.

The Object of an Education.

"Yes, I'm going to send Jimmie to school; he shall have an education. I don't intend that he shall have to work so hard as I have all my life. If he has a mind to improve his chance, he'll have as good an education as the next one."

Thus spoke a farmer to me a number of years ago about his only son, whom he was sending away to school. He had gone as far as he could in the village school, but his father's ambition for him was not yet satisfied. The idea that struck me was the reason he gave for him to have a first-class education. His idea was that an education would fit him for some other occupation than farming, and thus preclude the necessity of such hard work as had been his lot all his life.

The farmer himself was perhaps a trifle past middle age, yet still in what we call the prime of life; but his joints were stiffened and his shoulders rounded by incessant and severe labor and the exposure to which he had been subjected. He and his equally hard-working wife had started life together with little more than their bare hands. Their life had seen little of recreation; but toil, early and late, strict economy, and the determination to succeed, had brought them into the possession of as good a farm as there was in the country.

But was this man's idea of the object of education the right one and the true incentive for the young? This man did not want his son to be a farmer; therefore he would give him an education that he might earn his living easier in some other calling. Is not the truer idea that one which teaches that education should be sought because it enables one to be a better farmer, and to live a truer, nobler, more useful life? And should not the education broaden one's outlook and enable him to get more out of life?

The son was graduated with honors. His father was nearly beside himself with pride over his boy's success, and considered that his hard-earned dollars were well expended. He became a teacher, and, though doing credit to the profession, the unwonted confinement sapped his constitution, and in less than two years his career was terminated by consumption.

The probability is that this young man would have lived a long and useful life and been a progressive farmer, had he sought education with a view to doing more efficiently the farm work with which he was already familiar.

An agricultural college education is very desirable; but if this is unattainable, there are now short courses offered in some of these colleges that will give the key to much that may afterward be worked out on the farm. Then there are farmers' institutes and at some of the fairs much valuable instruction is given. Then there are agricultural papers, which are ever on the alert to secure and publish all that is new and useful in the field of agriculture. The agricultural experiment stations, too, are doing much in the way of educating the agricultural masses. All these sources of special agricultural and scientific information are available and should be used, especially by every young farmer. A course at a good business college is also of inestimable value to every young man in teaching him business methods and forms, and inculcating methodical habits.—Country Gentlemen.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

We believe in muscular christianity, and are glad that Baker University can demonstrate that the devil has no monopoly on foot-ball.—*Nebraska Wesleyan*.

The next annual meeting of the State Board of Agriculture will convene in Topeka on the second Wednesday of January and will continue through the two days following.

Haskell Institute at Lawrence has more than its full proportion of Indian students this year. Nine new ones arrived from Darlington, Ok., and Supt. Peairs came in with eight more from the Territory.

The junior class of Washburn College, Topeka, will issue a class book next May. Its title will be "Helianthus '96," and it will contain cuts of the members of the class, the faculty, the glee club, etc., making in all 150 pages.

All the friends of Lane University will be pleased to learn that the indebtedness of the University, which was \$12,082 at the beginning of the present administration three and a half years ago, is now reduced to \$7,244.

The Topeka Kindergarten Association has five schools in successful operation. The two large ones each have about fifty scholars. One of these schools runs a bus, which gathers the children from their homes in the morning and distributes them at the close of the session.

The Summer school building at Topeka, a handsome and substantial two-story brick structure situated on the northeast corner of Fourth and Western avenue, was destroyed by fire last Monday, the loss being estimated at \$8,000, on which there is but \$2,000 insurance. It was at first supposed that the origin of the fire was the furnace, but there were some indications that it might have been the work of an incendiary.

Miss Emily Kuhlman died at her home at Emporia last Monday of typhoid fever. For eleven years she was the head of the kindergarten department at the State Normal School. Last year she spent in Boston on advanced studies. She had completed arrangements to begin the teaching of the languages when she was taken sick. She was a graduate of several European schools, and spoke fluently a number of languages.

The *Student's Journal* of the State University, in reporting the football game between the Ottawa and State University teams two weeks ago, contains the following eloquent statements: "Slugging was freely indulged in. Cowan received a jar that rendered him unconscious for a time. Ugly Taylor presented a ferocious appearance with a piece of his scalp gone, his hair matted with blood, and his face dripping with it." It also adds: "The game last Saturday was, as has been expected, a very good one."

There is a conflict of authority between the State Board of Health and the Board of Education of Kansas City Kans., over the matter of sanitation in the public schools. The State Board claims it has the "say" in all matters pertaining to sanitation in the State and the Board of Education is compelled to adopt any measures in that line it may suggest. The Board of Education claims under a recent law passed by the Legislature it has the sole power in reference to sanitary matters in the schools, and the State Board has no right to interfere with any plans it may suggest.

Kansas has 13,149 school teachers, 5,364 males and 7,698 females. Of these, 38 males and 49 females are colored. There are 212,811 male pupils and 200,370 female pupils. Of these, 9,855 are colored, making a total of 423,036 pupils in the State, 408,941 of whom are in the public common schools. There are 11,992 pupils in private schools, of whom 126 are colored; there are 9,358 pupils in parochial schools, of whom 96 are colored. Kansas expends for her public schools annually \$4,972,967, her teachers receiving \$3,021,066 of this, the remainder being used for the construction and care of buildings, libraries, apparatus, etc. The State has buildings and other property valued at \$10,617,151, and a debt of \$6,086,928 less the sinking fund. The population of the State is 1,457,096 and the public school enrollment 399,322, the per cent of enrollment to the population being 27.98. This is a larger per cent of enrollment than any other State in the Union.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

Short Lecture Course for Farmers.

Beginning on the first Tuesday of February each winter, a two-weeks course of lectures is given on agriculture and related arts and sciences. This is provided for those farmers and others who cannot take up the fuller work of the regular College classes. Members of the Faculty are assisted in delivering these lectures by prominent farmers, stock raisers, and fruit growers of the State; and full discussions of the topics presented bring out the varied experiences of those attending. This course, during the winter of 1893, was attended by about 40 farmers.

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LAYER CAKES.

BY MRS. N. S. KEDZIE.

ALMOST every one likes cake, and layer cakes with their fillings of fruit or frosting seem to be particularly palatable to most people.

We are told that sugar is an essential to the best growth of the body, and we are assured that sugar is best assimilated when taken in connection with other foods.

When sugar was so expensive that a dollar bought only eight or nine pounds, the making and filling of cake meant much more expense than it does today, when one dollar's worth of sugar weighs nearly or quite twenty pounds.

Since cake is so universally enjoyed, being a good food, and since it is not too expensive for use in the average American household, care should be taken to make it so that every loaf shall be the best of its kind.

Layer cakes are comparatively new. Our grandmothers made fruit cake and pound cake, election cake and sponge cake, but they knew nothing of the dainty layers of cake with creamy frosting, delicate fruit, or stiffened creams between.

Some of the most noticeable faults of cake in many homes are coarse, uneven grain, an "eggy" taste, or dry, hard cake because of too much flour, while the filling is sometimes "grainy" if it be of frosting, thin so as to soak the cake if it be fruit, or sticky and "mussy" if it be of cream.

Coarse grain in cake may come from too much butter, too little flour, too much baking powder, or insufficient mixing of the dry ingredients.

Too many eggs, or eggs added without proper beating, will give a yellow "specky" appearance. The butter and sugar should be well mixed, and one part butter to four parts sugar will make a layer cake sufficiently rich. The flour, with the baking powder in it, should be stirred into the mixed butter and sugar until the whole mass is like corn meal. The yolks of the eggs may be mixed with the wetting and the whites should be beaten stiff. The wetting must be added just before the whites of the eggs, and the whole mixture should be beaten hard for one or two minutes.

A quick oven, and care not to overbake, will finish the cake part.

Most layer cakes are better if filled after the cake is cool. The boiled frosting for fillings may be flavored in many ways, and if soft fruits be used for filling, the cake must be covered on both sides by frosting, to prevent the soaking of the cake. Many fruits may be stiffened by gelatine and used between the coatings of frosting.

In adding nuts, chocolate, or dried fruits to the frosting for filling, it should be warm to insure thorough mixing.

In whipping creams for cake, a little gelatine adds to the stiffness without injuring the flavor.

All layer cakes cut better if they be twenty-four hours old, and most of them keep several days without deterioration. Many a good cake is spoiled in the cutting. The three-cornered wedge so often seen is an insult to any well-made cake. If the cake be round, cut it straight through the middle, then cut straight slices as long or as short as you choose.

A little care and a little thought are all that is needed to make much uninviting cake into food fit for kings. No American has proper respect for himself if he eats that which is less! The housewife who makes cake which is the best of its kind every time she fills her cake can, is the woman who is never satisfied with inferior cooking of any kind. The making of fine-grained cake brings an appreciation of good food in every line, which demands fine-grained, good-flavored bread, and flaky, digestible pastry. Thoroughness in one kind of cooking will make all food grow better, and the happy combination of good cooking with dainty serving makes a large factor in a good home.

Layer cakes are easy to make, and give an opportunity for a great variety of kinds according to the ingenuity of the maker. Like everything else in the world, layer cake is good according to the amount of thought expended upon it. It comes into the food supply like fun into every-day life; and to have the greatest value it must always be the best of its kind. If layer cake be worth making at all, it is worth making well.

You Can Do Better.

All cannot obtain wonderful results, but there are few, perhaps none, who cannot do a little better than they are doing. Let me illustrate: Frank M. Price and his brother have been farming on 180 acres for the last five years, near Earnest, Ohio. When they begun the land was run down and a stranger to rotation. Wheat yield had got down to eight bushels per acre. They begun a rotation of clover, corn, and wheat, drained the land as fast as they could and did better work in cultivation. Their wheat yield under such management has increased to twenty-three bushels this year, and twenty-six some other years, and has never been below fifteen. Our minister said in his sermon yesterday that Providence works through human agencies; that your chances for getting game are small if you load your gun with baking powder instead of gunpowder. This is my favorite doctrine. You would think a man a fool, wouldn't you, who loaded his gun with baking powder; but how much less foolish is it to ignore rotation and clover and drainage and thorough tillage, etc., etc., and let your wheat yield run down to eight bushels per acre? And then you blame Providence, perhaps, or speak of your luck. By the way, I thought the loss of that acre of wheat this year in my field was a matter of luck, but it wasn't. It was a gun loaded with baking powder again. Right west of it, in a neighbor's fence corner, I have found a large barberry bush. That was doubtless the trouble. I have lost perhaps one hundred bushels of wheat during the last three years in fields lying east of this bush. I knew well the reputation the shrub had, but had failed to notice it, although often passing by it. Providence helps those that help themselves. Trust in God and don't worry, but first keep your powder dry and aim well. Be very sure you don't leave any of your part of the work for God to do. He has given you the brains and ability to do almost anything, and if you don't use them to overcome obstacles, why you will have to suffer the consequences, to teach you better, just as you would if you stuck your hand in the fire, and just as surely.—T. B. Terry, in *Practical Farmer*.

Educate the Children.

This generation is in a hurry, and loves money. The boy is anxious to be doing something. If he has aspirations after a higher education, too often the father wants his earnings, or thinks a practical business education of more advantage than book learning. One of the rapidly rising business men of Chicago said to me not long since, "A boy doesn't need an education." This sweeping statement was made with the air of one who has tested the matter and knows. Another father who has the best good of his children at heart discourages their study of algebra and Latin because they cannot go beyond the high school. "They will never have any use for them." No, neither will "Pull away!" or "Blind man's buff" be of any practical value in business. But the muscles are developed by the play and powers of memory and reasoning by the study. The boy who is in haste to be earning, the father who thinks he has a right to his son's labor till he is twenty-one, the prosperous man of business, and the parent who throws away the high school because his children cannot also have the college, all make the same mistake. They miss God's thought in man's life. "A man's life consisteth not in the abundance of the things which he possesseth." A boy's mental powers and the opportunity to develop them are part of his legacy. The law appoints a guardian to look after the property of a child. The parent is guardian over this inestimably more precious possession. What wise guardian would allow the child to fritter away his estate and grow up to an impoverished manhood? But of how much more importance is the development of these godlike powers than the development of a great financial trust? Or, how unhesitating and scathing would be the public verdict over a little one deliberately crippled or stunted by a father! But what is a stunted body to a stunted mind? "But," says the parent, "have I not a right to the services and earnings of my boy till he is of age?" Perhaps not. To their Maker we are responsible for giving to our children the best possible opportunities for their development. If that best is a common school, then we are acquitted. If the possibilities involve a high school training, can we do less? If a collegiate or special education is within reach, dare we withhold?

The whole history of the matter of the endowment of agricultural colleges in New England, with the exception of Maine and Massachusetts, has been a pitiful exhibition of collegiate arrogance and greed, as untempered by any moral element as the worst exhibitions of party politics.—*Vermont Advocate*.

Wonder if it is any better anywhere else? The law is good, but too limited in that it provides no supervising head.—*Colman's Rural World*.

Isn't the editor of *Colman's Rural World* familiar with the Kansas State Agricultural College and its work?

Why the Farmer Should be Thankful.

T. B. Terry, the much quoted Ohio farmer who seems to be in love with his business, finds abundant reason for rejoicing this Thanksgiving season. He expresses himself in the *Practical Farmer* in this sensible fashion:—

GOOD HEALTH, AND COMPANIONSHIP OF FAMILY.

It is well once a year to think over what we have done to be thankful for. I meet some farmers who talk as though they thought their business was the poorest in the world. In fact I meet a good many who are constantly looking at the dark side of farming. What good does this do? Why not make the best of it? What good is there in grumbling, any way? If everything else is better than farming, why not change? My opinion is that these same men would soon have occasion to find more fault if they should try to follow any other calling. We are farmers; let us make the most we can of our business; let us try to improve it; let us not forget its advantages, for they are many, and don't let any one hear us running it down. Don't ever run it down at home with only the boys and girls to hear. What good can it do? And it certainly will do harm, for the children will grow up with the idea that farming is something to be gotten away from as soon as possible. Let us for a few moments look at the bright side of farm life. First of all, we have the most healthful business on earth, or at least we may make it so. And what is money or fame or an easy job worth when coupled with poor health? Our work is largely in the pure air and in the health-giving sunshine, and we may have pure water and milk and fresh fruits and vegetables, and there is always manual labor enough connected with our business to give that exercise that is so necessary to perfect health, and to give us a hearty appetite for the good things prepared for us to eat. The writer lives at hotels most of the time during winter. He has often, yes, daily, noticed how little enjoyment many traveling men and business men get out of eating. Out of a great spread around them, no matter if it costs a dollar, often only a few mouthfuls are touched. I see business men drinking clear hot water, eating only the very simplest food, chewing pepsin gum to aid digestion, and complaints of trouble with the stomach are so common. There are few farmers who know they have a stomach as far as any trouble with it is concerned. I offered a city business man some fruit the other night, and, although he wanted it badly, he said he dared not eat any at night. Thank God I can eat anything I want at any time and all I want of it, particularly when at home on the farm, "Home, Sweet Home." Farming is not a large business where much capital can be invested and an army of men employed by one man with the expectation of large profits. It is naturally a small business, near to nature's heart, healthful, quiet, secluded, where one can have in time nearly all that is really worth living for in this world, and where he can be with his family almost constantly, day and night. I saw a little item in the papers not long since about a commercial traveler who was not able to be at home very often. Once when at home he had occasion to correct his little son, who ran screaming to the mother. When she asked what was the matter he replied, "That man what stays here on Sunday spanked me." Alas, there are thousands of business men in town who hardly have time to get acquainted with their own families. I know a young man who left the farm and went to work in a large town. He and his wife have a little house where they live very cosily. I say "they;" perhaps "she" would be more correct. He told me that he had to get up at five, or before, had just time to eat at noon and night and seldom could get home before half past nine, and often it was later. Of course there are men in town who work short hours, but they are not business men with as small means as most farmers possess. I thank God that my business gives me so much time with wife and children. What is a little more money by the side of this? The only objection I have to the institute work is being away from home so much.

HARD TIMES TOUCH HIM LIGHTLY.

During the hard times of the last two years I have often felt thankful that I was a farmer. Many business men in spite of all they could do lost their all. Many thousands have been thankful to hold their own, say nothing of profit. Said a railroad president to me the other day: "Interest! bless you, if we can make running expenses in these times we are perfectly contented to let all interest go." Then look at the almost countless thousands thrown out of work by the hard times. Through all of this the farmer who had any reasonable chance, and who did his part well, has lived in peace and safety, with plenty to do and enough to eat. No turn of fortune's wheel could wrest his farm from him in the way that many business men lost their all. I was in a large city last winter, and saw the rush of weak, starving men when some public work was begun, just to help them through the winter. These men were honest and willing, but simply could not get anything to do to earn one cent. When I saw their faces, where traces of want were so apparent, when I saw men trying to handle earth with their hands, the supply of shovels being too small, for fear they might not get a job, when I thought of the thousands of wives and children suffering and actually starving until these men could get some work, when I saw hundreds being fed at the soup houses, I thanked God that there was one great class in this country among whom actual want and starvation were almost unknown. One man near where I was, crazed by the suffering of his family, went into a grocery, and at the point of a pistol took some potatoes and flour and ran for home. The officers followed him and found the man, wife,

and children just bolting down the raw potatoes and dry flour.

MORE TIME FOR RECREATION.

The farmer who manages wisely can have more days off during the year, more time for visiting and recreation than the small business man of town or city can. There are wet days when we can leave our work, without any possible loss, and perhaps many days in winter. Most business men must give unceasing and never-ending attention, or lose by it. The proprietor's eye must be constantly over all. The business men cannot get away from factory, store, or shop as much in a year as many good farmers do from their farms. I am not advising the neglecting of business for the farmer, simply saying that he can get away more and not neglect his business.

GIVE ME NEITHER POVERTY NOR RICHES.

There is no chance for great wealth on the farm, nor is there any need, as a rule, of real poverty. Our business is one of the safest on earth. People must eat, and we furnish them food. "Give me neither poverty nor riches." This is the position the great mass of us farmers occupy. It is the happiest life led by man. With wealth comes great care and anxiety. The man who has everything that riches can buy is not as happy as the man of modest means. Luxuries cease to be such when we have them all the time. There is a pleasure about working for improvements and occasional luxuries, and having them, when earned, from time to time, that the rich know not of, all of which we should be thankful for. Then a farmer gets his money more honestly than some. Yes, I believe this. Except in the case of some luxury put up in fancy shape, like fine butter or choice, large strawberries, we get only the actual market price of what we produce. We give the public only pure unadulterated articles. As a rule our percentage of profit at the best is not excessively large. Thousands make money by adulterating the products they sell, not only robbing, but often injuring the health of the public. Other thousands charge a profit that enables them to grow rich faster than the parties they rule. Trusts and combinations are formed to break down competition, so they can rob people legally. We are practically free from all these evil ways, for which we ought to be thankful. This morning, on the cars, two doctors sat behind me. I was thinking over what we farmers had to be thankful for, when I overheard them complaining that often they were called up three or four times in a night, that times were so hard that they could only collect enough to barely keep the wolf from the door, etc., etc. At last I turned around and said to them: "Gentlemen, I cannot help but hear what you are saying. I am trying to think out what I have to be thankful for to put in a Thanksgiving article for my paper. You have helped me a little. I am a farmer. Doubtless you think you are way above me; but gentlemen, I can sleep all night soundly when I go to bed, and the products I raise bring cash, no matter what the times are. Judging from your talk I have far more to be thankful for than you have." No matter what class of men I get acquainted with, I find that they have troubles, the same as we do, and often much worse ones than we know of. Take it all in all, the farmer who owns a good farm, and has a comfortable home on it, should be the happiest man in the world. Let those who haven't got that far along strive earnestly to get there.

Reading Matter in the Home.

No home is complete without reading matter. This is an age of reform and advancement; a period when states and nations are convulsed; a time when great questions are before the people for solution; an era when mighty influences are abroad, surging and heaving the world like an earthquake.

The people, awakening from the darkness, ignorance, and superstition of centuries, are putting on the garb of activity and pressing onward from one point of achievement to attain greater heights of success.

He who would keep abreast of the times must keep posted about the various things connected with and concerning his vocation. He must know what is transpiring in the world if he would keep in the van of the mighty army of civilization. Do not imagine that the impetus of the tide will carry you along with it. You advance by personal effort. If you are not advancing you must retrograde. There are no places for sluggards or deadheads; they are crowded aside or trampled under the feet of this vast moving throng. The day was when one had an excuse for not obtaining an education. But that day is past; it lives only in the annals of history. Our fathers have given us a glorious heritage—a free country, schools, and the press. It is true all cannot obtain a "college education;" however, that is no excuse for ignorance. Some of the greatest men who ever lived, and whose names adorn the pages of our country's history, chiefly obtained their education in their homes around their own firesides. You ask how. Simply by reading. There were not then the thousands of papers published, as now, in the interest of science, and every society and every reform, but they improved their opportunities, and, consequently, their names are handed down to us as men of grand achievements and broad success.

The point I want to enforce is this: Keep books and papers in your home, read and digest their contents, and thus store your mind with valuable information. And mind, keep only books of high moral tone; read only those papers which have a pure moral tone permeating their entire contents. As you who

read this are farmers chiefly, allow me to say to you, as one who knows and appreciates the value of good literature in the home, keep plenty of good reading matter in your home. It yields large dividends. You need not only papers which give the general news of the day, but you need, and must have, if you expect large success in your vocation, papers which treat on the subject of farming as its chief object.

The *Epitomist* is a most excellent farm journal, which comes to you monthly replete with useful information on all subjects relating to the farm. I know of no farm paper published in the "new and free America" which gives so much for the money. Read and digest every article in each number and it will do you an immense amount of good. You should have at least two or three good farm journals come regularly to your home. However, do not let those crowd out one or two good papers on the general news of the day.

Farmers, you are the strength of our nation. The perpetuation of our free institutions—our pride and our boast—weighs heavily on you; therefore be alive and aggressive, and keep reading matter in your home.—Rev. H. P. Bell, in *Agricultural Epitomist*.

The Farmer Not Enough of a Business Man.

We have been so accustomed to belittling agriculture, and much of it has gone on in such an unbusiness like way, that thoughtless people, the world over, are inclined to think that farming is pretty poor business says J. H. Hale in the *Connecticut Courant*. More thoughtful people, of course, know that it is largely the basis of all national wealth and prosperity, and it must be a fairly good business here in the United States, or the country would not have made the rapid strides that it has done.

Of course, it is an open question whether the farmer himself or others reap the greatest profits from agriculture; farmers in many parts of the country who are dependent upon transportation companies and commission merchants for the disposal of their farm products have a business which is largely out of their control, and may not make a success of it, although giving it the greatest care and attention; but here in New England where we have most of our markets within easy driving distance of our farms and handle our own products with our own teams and sell directly to consumers, or, at the furthest, to the retail dealers who supply the consumers, if we are not successful as agriculturists, the fault is very largely our own.

The farmer, through force of circumstances, is a capitalist, laborer, and business man combined in one, but far too often forgets that he is anything but a laborer and a drudge, and neglects the business side of the situation, which to my mind, is the most important one.

Grounds and Buildings.

The College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing towards the city, are beautiful in location. The grounds include an irregular plot in the midst of a fine farm, the whole being surrounded by a durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape gardener, while well-graveled drives and good walks lead to the various buildings. All of these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recreation rooms are excellently lighted and ventilated, and are all heated by steam or hot water. A complete system of sewerage has been provided.

College, 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices, reception room, cloak rooms, studies, chapel, library, reading room, kitchen laboratory and dairy, sewing room, society rooms, printing office, and twelve class rooms.

Chemical Laboratory, one story, 26x90 and 46x75 feet of floor space, in form of a cross. It contains eight rooms, occupied by the Department of Chemistry and Mineralogy.

Mechanics' Hall, 39x103 feet, two stories, and 40x80 feet, one story, occupied by wood and iron shops music rooms, iron foundry, lumber rooms, etc., in addition.

Horticultural Hall, 32x80 feet, one story and cellar, having cabinet room, class room, and storage, with greenhouse attached.

Horticultural and Entomological Laboratory, with propagating houses attached.

Museum Building, 46x96 feet, and two stories high. This building, which has served many purposes, is now fitted for an armory, drill room, and veterinary laboratory below, and for class room and laboratory for Department of Botany and Museum of Natural History above.

Science Hall, containing the library, with ample reading rooms; class rooms and laboratories, and cabinet room for zoology, entomology, and botany; and suitable rooms for the various College societies.

Appropriation is also made for a central steam plant, to furnish heat and power for all the buildings. This plant is to cost \$14,000, and will be completed in the fall of 1895.

The farm barn is a double but connected stone structure, 50x75 feet and 43x96 feet, with an addition of sheds and experimental pens 40x50 feet. A basement, having stables for 75 head of cattle, shops, engine room, and granaries, underlies the entire structure.

The horticultural barn is a stone building, containing store-room, granary, and stables for several horses.

The foundries, lumber house, implement house, piggery, and various out-buildings are of wood.

Two stone dwellings, occupied by the President and the Professor of Agriculture.

Short Lecture Course for Farmers.

Beginning on the first Tuesday of February each winter, a two-weeks course of lectures is given on agriculture and related arts and sciences. This is provided for the use of farmers and others who cannot take up the fuller work of the regular College classes. Members of the Faculty are assisted in delivering these lectures by prominent farmers, stock raisers, and fruit growers of the State; and full discussions of the topics presented bring out the varied experiences of those attending. This course, during the winter of 1893, was attended by about 40 farmers.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Prof. Lantz was kept from classes Friday by illness.

Messrs. Conrad and Halstead, Fourth-years, spend their Thanksgiving away from College.

Mr. J. K. P. Barker, of Kansas City, Kan., visited with his son Edwin, First-year, Thanksgiving Day.

Mrs. Kennett and Mrs. Tatten, of Silver Lake, made their children happy by a visit over Thanksgiving Day.

President Fairchild is at Abilene to participate in the exercises of the North Central Kansas Teachers' Association.

Miss May Murphy, of Manhattan, was shown the sights at College yesterday by Nora Newell, '93, Post-graduate.

G. G. Boardman, Fourth-year, went to Centralia Wednesday to attend the wedding of his sister, Jessie, student in 1891-2.

Dr. and Mrs. Mayo are happy in the possession of twin babies—a son and a daughter—who arrived at their house this morning.

George and Nora Fryhofer, Fourth-year students, enjoyed a visit Thursday and Friday from their brother and sister, of Randolph.

On account of sickness among members on the program the Alpha Beta Annual has been postponed by action of the Society to December 14th.

Prof. Olin is chosen as one of the alternate judges on thought and composition in the State Oratorical Contest to be held at Topeka on February 24th.

Prof. Georgeson writes on "Alfalfa—Especially in Kansas" and Dr. Mayo on "Tympanites, or Bloating," in the hand-book on "Alfalfa Growing" just issued by the State Board of Agriculture.

Mr. B. C. McClellan, of Lincoln County, was at the College last week, planning to move here to educate his children. Mr. McClellan was raised in Loraine County, Ohio, Pres. Fairchild's birthplace, and the families were acquainted.

The Thanksgiving holiday was lengthened by a day, due to the breaking of a six-inch elbow on the steam pipe Wednesday morning, leaving classrooms and offices without heat. An elbow ordered by telegraph arrived during the afternoon in time to warm the building for the evening social.

The students from Johnson County were delightfully entertained by Susan and Ary Johnson at the Parker Cottage last evening. Parlor games and practical jokes were the chief features of the evening. Those present were Misses Staver, Walmer, Dille, Ada Zimmerman, Nannie and Julia Williams, and Messrs. Pincomb, Uhl, Staver, Steel, Rhoades, Payne, and Marty.

As stated in last week's INDUSTRIALIST, Prof. Mason went to Colorado in search of his father, Mr. E. P. Mason, who was supposed to have left the train November 17th at Mirage and been lost on the prairies. On Monday, the 26th, the body was found five miles south of Mirage in a good state of preservation, life having not long been extinct. Mr. Mason's money, watch, and clothing were undisturbed, and it is evident that he met his death from exposure during temporary derangement caused by illness. The funeral services were held at Prof. Mason's residence on Wednesday afternoon, and were conducted by Rev. R. M. Tunnell, assisted by Pres. Fairchild. The deceased was sixty-five years of age, and leaves a wife and two children—Prof. S. C. Mason, of this College, and Mrs. Dalinda Mason-Cotey, of Utah Agricultural College.

"Can men produce sufficient to meet the wants of our Society?" was the subject discussed in chapel by Prof. Will yesterday. Some men love to picture ideal governments which are so planned that all men are happy and everybody is good. When Walthus published his Essay on Population he did more to dissipate these utopian theories than any other writer. He claimed that the tendency is for population to increase much more rapidly than the food supply, and that this caused poverty. His theory is supported by the evidence which Darwin and other evolutionists have found in the vegetable and animal kingdoms. The law of increasing returns which comes into play by more effective organization of labor and the use of improved machinery does not increase the ultimate productivity of the earth from which all raw material comes. Conceding this, is there no room for reform? Is the soil now so well tilled that it will not pay to improve the culture? Are men now pushing each other into the sea for want of standing room? Travel

across the continent, and you will see millions of acres of soil as yet untouched by the farmer. According to the returns of the city assessors of Boston, two thirds of the land in that city is not in use. But do we find the most children where there is the most ability to supply food? No. To claim that poverty is the result of an over-populated world is to attempt to explain it by a condition which has not yet been produced.

The Fall Term social for Faculty, students, and visitors was given on Thanksgiving eve. The program in chapel consisted of the rendering of a cantata entitled "The Dairy Maids' Supper," in the production of which the Entertainment Committee was aided by a number of students who represented such characters as farmer and wife, dairy maids,—ten of them,—milk cans, chalk, and pump. The members of the Fourth-year Class entertained in various ways in the different rooms during the remainder of the evening. The College Band added much to the pleasure of the social by the music furnished.

The *Western Trail*, the handsome publication of the Chicago, Rock Island, and Pacific Railway Company, gives the College an illustrated "write up" in the October number, introduced by this paragraph: "The beautiful city of Manhattan, Kansas, located on the line of the Great Rock Island Route in the valley of the largest river Kansas claims, has near to it an institution that is a credit not only to the State of Kansas but also to the nation, for as has been many times claimed by the *Trail*, that husbandry is the true basis of all our wealth, so this agricultural and industrial College that has for its object the testing of agricultural methods and seeds and grains, gives results of its researches to the farmers of the State, and besides this gives practical business knowledge to hundreds of students of both sexes that are fortunate enough to take advantage of the benefits it offers."

A strong effort will be made during the coming session of the Legislature to get an appropriation to establish a dairy school in connection with the State Agricultural College, at Manhattan. This action will be heartily approved by the dairymen in Kansas, who have been advocating such a movement for several years past. In asking the State for money to build up any new enterprise it will be necessary to show some tangible evidence that the request comes from persons who expect to be benefited by such an outlay. As further proof that a dairy school is demanded by those who would be most interested in such an institution, the editor of the *Kansas Farmer* calls upon every man and woman in the State who feels the need of a dairy education to signify their wishes by mailing a postal card to this office. It is hoped that young ladies, as well as gentlemen, will take advantage of this call.—*Kansas Farmer*.

Webster Special Program.

The special program, rendered by the Webster Society to a full hall of invited guests on last Saturday evening was meritorious in the highest degree.

Pres. F. J. Smith presided with a manly grace and dignity worthy of special notice; and the order throughout the session was such as to merit a word of commendation from every one present.

"The Decline of Oratory" was the subject of an address by F. E. Rader, who, in a clear and forcible manner, spoke of ancient oratory, the position it occupied in Greece and Rome, upon what its importance depended, its power in government, and the cause of its decline. Demosthenes and Cicero were held out as the world's greatest orators. "They lived before the age of journalism." "Through the medium of oratory was accomplished all that is done today by the power of modern printing." "The conditions of Greece and Rome were such as to naturally make great orators." "Civil strife, foreign wars, democratic government, the theater, forum, and philosophical schools all played their part in the development of oratory." Mr. Rader said that the successful speaker must be vigorous, enthusiastic, and fiery; that he must be capable of being moved mightily, to move others with him; that his intellect must be fired with passion, while his inner being must be controlled. Though its decline began with the conquering of Greece and the imperialization of Rome, journalism was given as the greatest cause of its fall. "The temperament of the people has changed, time is limited, periodicals and newspapers are within the reach of all, public men strive more for the lasting approval of the many who read than for the applause of the few who hear their speeches." "With the decline of oratory, public speaking has grown more important." "The world now demands truth presented in a clear, concise, logical manner, addressed to the intellect, and not the glitter and glamor of words appealing to the emotions." "Is this oratory? Not as understood by the ancients, for theirs is rapidly becoming a lost art."

"Should Territorial Extension be the Policy of our Government?" was very ably discussed by E. G. Gibson and J. C. Wilkin. Mr. Gibson said "that growth is one of nature's laws; the stage of inactivity is short; we must go forward or backward; other nations are acquiring territory upon every side; the Pacific Islands, the Panama Canal, the South American States, the call from Hawaii and from China, the growth of our northern neighbors, all tell us that we cannot live to ourselves alone." "Shall we admit the weaker seeking admission or build fortifications and navies to protect ourselves from the nations that may acquire them in the future?" "The acquisition of American territory would add strength and make our

government less complex by doing away with petty States that continually make trouble through conflict or misinterpretation of treaties and laws." "It would give us the products from the varied climate of every zone."

Mr. Wilkin made an excellent argument against territorial extension. He claimed that with the growth of our navy, the extending of commerce among "Latin American" States, the strict enforcement of the Monroe doctrine, we were truly growing. "The decrease of revenue with greater government expense would call for direct taxation." England's present protective policy was contrasted with that of her former territorial extension. "The difficulties of China, Japan, Austria, and other nations over acquired territory are a warning to us." "Foreign immigration, differences in ideas of government, diversity of customs and languages, and the clash which would arise because of the sectionalism of industries prove that we do not want to extend our borders."

In his oration on "The Rivalry of Nations" Mr. G. A. Dean spoke of strife as one of the universal characteristics of society. Histories relate little else than the revolutions of empires and destruction of cities and nations. "The relics of nations long extinct tell us that war was not unknown to them." In all stages of civilization, alike among the savages of Africa or the Christians of Europe, do we see man pitted against his brother. After speaking at some length upon the growth and conflict of modern nations, Mr. Dean asked if there is no prospect of a time coming when this destructive conflict shall cease. "Since ignorance is the parent of war with all its concomitant evils, when it shall have given place to a high and noble intelligence, then shall discordant rivalry give way to the ceaseless reign of universal peace."

A very interesting Reporter was read by Editor Ed. H. Webster. In the editorial was brought out the advantages derived from "Special Sessions." A thoughtful article on "Skepticism" showed the incongruity of the skeptic's belief; and another comparing the College "Sport" with the student who is here for a purpose showed how each "came out" in the end. The more thoughtful articles were interspersed with humorous poems and bits of satire, all of which were appropriate and highly appreciated.

"Memphis" was delivered by Mark Wheeler in a pleasant manner; and several selections of instrumental and vocal music received well-merited applause.

A few minutes under unfinished and new business showed that the Websters are no less parliamentarians than literary workers. W. H. P.

GRADUATES AND FORMER STUDENTS.

W. H. Serviss, student in 1892-3, visited College friends the last of the week.

John Taylor, '94, is a visitor. He has been house-building for several months past.

Eusebia Knipe, '90, Minnie Romick, '93, and Lucy Hall, '93, visited classes yesterday morning.

R. A. McIlvaine, '92, teaching at Harveyville, enjoyed his visit to classes yesterday forenoon.

May Harman, '93, spent Thanksgiving Day with her sister and brother in Fourth-year classes.

E. L. Frowe, '94, took advantage of vacation at Washburn College to visit College friends during the week.

F. W. Ames, '93, visits College whenever he has a spare day. He was in evidence here several days this week.

Mrs. Annie M. Shipman-Frey, Second year in 1891-2, with her husband spent Thanksgiving Day with her sister, Mrs. Breese.

Jennie Smith, '94, spent nearly all of yesterday visiting College friends. She is teaching in the Christensen district at Clarkson.

J. B. Brown, '87, in charge of the Indian school at Ponca, Indian Territory, in a letter of good cheer states that his classmate, O. G. Palmer, is Superintendent of the Schools at Perry.

A. A. Mills, '89, Assistant in Agriculture at the Utah Agricultural College, contributes an article entitled "Alfalfa or Lucerne from a Utah Standpoint" to Secretary Coburn's hand-book on "Alfalfa Growing," just issued as the quarterly report of the State Board of Agriculture.

The name C. M. T. Hulett, Fourth-year in 1878-9, should have appeared in last week's INDUSTRIALIST instead of W. W. Hulett. While the correction will not help Mr. Hulett's wounded arm, it will remind him that the INDUSTRIALIST remembers the name of one of Johnson County's most progressive farmers.

The jolly crowd that spent Thanksgiving evening at the pleasant home of Mrs. Winchip have another good sized chunk to add to their already large supply of gratitude. The hours were filled with novelties in the way of entertainment, and late in the evening the young men served refreshments. Of the company were Jane Tunnell and Harry Whitford, '90; Bertha Winchip and Collins McDowell, '91; Edith McDowell, '93; Elizabeth Stingley, Second-year in 1889-90; Will Spilman, Second-year in 1888-9.

Notes from the Farm.

This winter's steer-feeding experiment is well under way. The experiment includes two lots, six Shorthorns pitted against six natives or scrubs. The Shorthorns are registered thoroughbreds, and the natives are from the common grade cows around Manhattan, and show no improved breeding. These

two lots were selected from nineteen head purchased by the College in the spring of '93. They have been pastured the last two summers and roughed through last winter. The records up to the present experiment show that the natives have made the best gains for the food consumed. The two lots are receiving like treatment. At present ground wheat is the grain feed, and will continue to be if the steers do well on it. The day's feed has been gradually raised until each lot now receives ninety pounds a day and still have appetites for further increase. Corn stover is fed as roughness. The economy of cutting the stover with the ensilage cutter is being tried. Both lots are making good gains at present, fully equal to gains made in previous experiments on corn.

An experiment is soon to be started to compare corn, kaffir corn, and wheat as feed for hogs.

The College herd is receiving its regular feed of ensilage. The stock do not relish it as much as usual, as the quality is rather poor. This is due to the immature condition of the crop when it was put up, which makes a wet, sour ensilage, containing no grain. But for all this, we will get by far more good to the acre out of it than when the crop is harvested as corn stover.

Twenty-six Shorthorns, thirteen Aberdeen-Angus, nine Jerseys, and three Herefords will make a well-filled stable this winter.

Golden Night's first mark on the College short-horns is shown by the appearance of a dark roan calf. Golden Night was traded for last winter, and is the first roan that has been used here; and present indications are that we will be able to supply our customers who think that nothing but a roan will do.

College Stokepogis 26,364, head of the Jersey herd since 1890, is sold to B. A. Knox of Blue Bottom. His charge is filled this week by the new bull purchased of B. C. McQuesten of Ottawa.

The wheat experiments have suffered severely from the dry weather, and make a poor contrast with the experiments at this time last fall. F. C. BURTIS.

COLLEGE ORGANIZATIONS.

Students' Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

Union Society.—President, Dora Thompson; Vice President, Mary Wilkin; Recording Secretary, Maud Kennett; Corresponding Secretary, Ellen Norton; Treasurer, Mabel Cotton; Marshal, Emelie Pfuete; Board of Directors, Laura McKeen, Flora Day, Mabel Selby. Meets on Friday afternoon at 2:30 o'clock. Admits to membership ladies only.

Webster Society.—President, F. J. Smith; Vice President, E. H. Freeman; Recording Secretary, George Dean; Corresponding Secretary, A. G. Bittman; Treasurer, Mark Wheeler; Critic, T. W. Morse; Marshal, J. B. Norton; Board of Directors, J. V. Patten, E. G. Gibson, J. C. Wilkin, E. C. Trembly, R. W. Bishoff. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Hamilton Society.—President, R. J. Barnett; Vice President, C. A. Johnson; Recording Secretary, R. S. Kellogg; Corresponding Secretary, E. C. Joss; Treasurer, Wm. Anderson; Critic, W. I. Joss; Marshal, F. W. McQuaid; Board of Directors, B. W. Conrad, J. J. Johnson, A. L. Peter, W. L. Hall, F. A. Dawley. Meets on Saturday evening at 7:30 o'clock. Admits to membership gentlemen only.

Alpha Beta Society.—President, W. H. Phipps; Vice President, Elva Palmer; Recording Secretary, Grace Seest; Corresponding Secretary, J. B. S. Norton; Treasurer, R. W. Rader; Critic, Gertrude Havens; Marshal, Mary Paddleford; Board of Directors, A. C. Peck, Fannie Parkinson, A. E. Ridenour, R. W. Clothier, J. B. S. Norton, Gertrude Havens, Nora Fryhofer. Meets Friday afternoon at 2:30 o'clock. Admits to membership both ladies and gentlemen.

November 24th.

Although the attendance of the Hamilton Society was not all that could be desired, those present enjoyed an interesting session. Recording Secretary Kellogg called the Society to order and appointed W. H. Painter chairman pro tem. Before the program the Society enjoyed a somewhat lengthy but spirited parliamentary debate. The question, "Resolved, that the execution of John Brown was justifiable," was supported affirmatively by A. C. Smith and A. D. Coe; the negative being argued by W. L. Hall and J. C. Wolcott. The affirmative showed that the deceptive and traitorous designs and deeds of this person could only be punishable by the fate he met; while the negative held that his whole life and work was given to bettering the existing conditions of humanity and assisting his more helpless fellows; that it was chiefly through sectional hatred that he received his unjust punishment. The speakers showed unusual preparation and excited no little interest among those present. The Society decided the question in favor of the negative. An interesting essay on long-distance flash signaling for the transmission of intelligence was read by W. K. Blachly. O. A. Otten's oration was well rendered, and displayed excellent thought. Under discussion, Wm. Poole briefly described an interesting machine for sharpening files. Extemporaneous speaking and discussions of rules of order, decisions, etc., now occupied the time of the Society. Such enthusiasm was manifested that only by the going out of the incandescents was the Society adjourned. E. C. J.

November 23rd.

The program of the Alpha Beta Society opened with a duet by Misses Willard and Wilder. Nora Fryhofer led the Society in prayer. Mr. James gave a reading. The question for debate was "Resolved, That the United States does not need a powerful navy and all expense beyond a small sum for peace service is money wasted." Hattie Paddleford and Chas. Sandstrom were on the affirmative and A. C. Havens and Clare Wilson on the negative. For some reason or another, like the sailor's oxen, the larboard speaker got on the starboard and the starboard on the larboard, but managed to give the question a good discussion on both sides. The judges gave their decision for the negative. The Gleaner was presented by A. E. Ridenour. It proved to be a very entertaining number. We were all glad to hear from our esteemed

honorary member, C. H. Thompson, through its pages. The Gleaner was also supplemented by illustrations of striking scenes from the lives of Alpha Betas. After recess the Society listened to a trio by Misses Nora Fryhofer, Elva and Inez Palmer, and a quartette, Messrs. Spaulding, Clothier, Coffey, and Smith. Informal speeches were given by E. O. Powell on the Reformation, Cora Thackrey on the Japanese, and W. H. Phipps on Fabrics from Tree Fiber. The business part of the session was long and animated by a large amount of ragging on various parliamentary questions. The Society adjourned at a late hour. J. B. S. N.

November 23d.

The Ionian Society was opened promptly on time by congregational singing, followed by prayer by Grace Stokes, and roll call. The following ladies were then initiated: Mabel Smith, Anna and Inga Dahl, Bertha and Hilda Olson, and Henrietta Evans. The program was opened by a piano solo by Miss Sweeting, followed by a declamation, "Finding the Sunset," by Phoebe Smith. Hope Brady impersonated the young author who for the first time sees his poem in print, and is realizing the great trial of finding the meaning of the production entirely spoiled by misprints. Next on the program was a guitar and mandolin duet by C. M. Buck and R. H. Brown, who responded to an encore, Lucy Ellis gave a well written oration on Marie Antoinette, and this was followed by an up-to-the-times extemporaneous speech by Mary Wilkin. A good edition of the "Oracle," with the motto—

"Speak gently, 'tis a little thing
Dropped in the heart's deep well,
The good, the joy, that it may bring,
Eternity shall tell"

was presented by Mary Pritner. After this came a piano solo by Miss Daniels, and in response to an encore she responded with another well-executed selection. The debate on the question, "Resolved, that it would be better for us to have our week day vacation on Monday instead of on Saturday," was upheld on the affirmative by Ary Johnson and Fanny Correll, who argued that lessons would be better prepared if the students knew they had just Monday in which to get them; they thought that this idea of Monday vacation was new, and like many other good things is slow ingaining ground; perhaps it would put a stop to football. Emma Finley and Ida Walters said that Monday is always a busy day at home and many of the girls would feel that they must help. The boys would play football anyway, and their bruises would have time to heal up before Monday if they played on Saturday. The judges, Messrs. Dean and C. E. Joss and Mabel Selby, decided two to one in favor of the negative. Fanny Hacker played a piano solo which was so well appreciated that she was recalled. Flora Day's original poem was sung by Emelie Pfuete, Miss Day accompanying her on the piano. This closed the program, and after the usual routine of business and roll call with quotations the Society adjourned. E. E. N.

Profitable Farming.

The man who raises a number of crops and who has something to sell every month in the year will in a series of years have made more money and be in a better position financially as a rule than will he who farms one or two crops and stakes his all on the venture. It may look small to some of our large farmers, but the time is coming, if it is not already here indeed, when we have to resort to every known means to get the most out of our investments. The dry goods merchant, the druggist, the grocer, the clothier, nor any other confines himself to one thing, nor thinks it beneath his dignity and position to deal in numberless things and many of them small and trifling. When the next census is taken we have no manner of doubt but that the average farm will be found smaller than it was when the last was taken, and that the diminution will gradually go on until every man will be able to cultivate every foot of his land and be compelled to resort to every possible expedient to make it pay.

The people look to the farm to supply them with food and the thousand and one things that enter into our every day consumption must come from there. The question to be considered is not whether farming pays, but what are the business principles to be employed to make our efforts successful? We can command success if we will use the right means, and be sure of failure if we use the wrong. Every farmer in Missouri having the ability to work and intelligence to place it properly can do something in the way of raising stock so as to have one or more colts and steers, milch cows, and fat wethers to sell every once in a while, and then some poultry and eggs, butter and cheese, apples and small fruits, potatoes, turnips, cabbage and the like, as well as wheat, corn, oats, hay. There is nothing small or pettifogging in this, but there is produce that is in demand for the money all the year round and every one can raise it. The winter is the time to think and to lay plans. We would like to see this thing of a diversity of crops discussed in our columns. It is not to our credit that Missouri should import from other States more than half the butter consumed in the towns and cities, and more than three-fourths of the cheese eaten. But we import nearly or quite half the potatoes consumed, and much of the fruit that is sold in our markets.—*Colman's Rural World.*

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NOTES ON FLORIDA. II.

BY PROF. A. S. HITCHCOCK.

IN accordance with my promise in the first installment of these notes, I now take pleasure in carrying my readers along the railroad which connects Pensacola and Jacksonville. The country appears to be an immense sand bank, in spite of which fact the vegetation was luxuriant. The land is nearly level and often swampy. One of the most characteristic trees of the forest is the long-leaved southern pine (*Pinus Palustris* L.). The leaves are about a foot long, or in young specimens much longer. The top is small and scraggly-branched. The wood is very resinous, and being the fuel of the wood-burning locomotives on the railroads here, gives rise to volumes of black smoke. Other trees frequently met with are the Sweet-Bay, Sweet-Gum, Live-Oak, and Cypress. The long southern moss hanging from the trees in swaying festoons gives to the scene a sombre aspect. This plant, so frequent through the south, is not a moss, but a flowering plant allied to the pine-apple. Like the other species of the genus *Tillandsia*, it is an epiphyte, exacting from its host lodging free of charge, but furnishing its own board. It has no connection with the soil, and of course gets no nourishment therefrom, nor does it send roots into the host plant and thereby obtain the necessary nutritive material. It must then obtain its mineral matter from the small particles blown by the wind, or carried down from neighboring branches, or even from the air by the rain. It is not a parasite, yet by reason of its abundance may more or less smother its host. Immediately after a rain it is quite green, but soon assumes its accustomed gray.

In the streams one sees, often in sufficient abundance to choke navigation, the water lettuce (*Pistia Spatulata*). These plants float upon the surface of the water, the roots hanging free. Each plant consists of a rosette of roundish light green leaves, the tuft a few inches in diameter. The plants propagate rapidly by offsets thus soon forming dense masses on the surface, entirely hiding the water.

On my way I stopped over at Lake City, visiting a friend, and looking over the Agricultural College. Passing on to Jacksonville and then south, I finally reached Eustis, the objective point of my journey. Here is located the Subtropical Laboratory of the U. S. Department of Agriculture, Division of Vegetable Pathology. The Laboratory is in charge of Mr. W. T. Swingle, a graduate of the Kansas Agricultural College. Through his courtesy and kindness I was given free access to the facilities of the laboratory, and was allowed to draw upon his unusually rich fund of information concerning not only the Florida flora, but the whole field of botanical information.

The Laboratory building was erected by the citizens of Eustis. It contains six rooms, and is fully equipped with apparatus and other facilities for experimental research. The Library is well stocked with books, pamphlets, and periodicals, and includes the large private library of Mr. Swingle and his co-worker, Mr. Webber, formerly of Nebraska and later of the Shaw School of Botany, in the position now held by Mr. C. H. Thompson, a graduate of this College.

The laboratory was established for the purpose of studying the diseases of citrous fruits, particularly the orange and lemon. Eustis is located in the western part of Orange county on Lake Eustis, one hundred miles south of Jacksonville and about half way from the Atlantic to the Gulf Coast. It lies in what is known as the orange belt, and hence is conveniently located for the study of the orange diseases.

The orange growers are intelligent horticulturists, and are ever upon the alert for improved methods of combating fungus or insect enemies. They appreciate and cooperate with the laboratory, and thus make the work of the latter much more effective. At a future time I may speak further of the work done here, and also of the peculiar flora of the region.

TISSUE PAPER DECORATIONS.

BY OLIVE M. WILSON, '95.

DURING my summer visit in Chicago I had a chance to notice in how many pretty ways a house may be daintily decorated with tissue paper. These days, everything is trimmed with this material. The drapery of the piano cover is caught up by morning-glories which are trailed down the folds of the goods. A bunch of chrysanthemums, carnations, poppies, roses, or any other bright flower, may be fastened to the top of an easel or picture.

Another very unique idea in decoration is the way in which flowers are substituted for the heavy portieres used between double doors. This, however, is suitable only for summer. It gives the light, airy, cool effect which is so pleasant in warm weather. Dark red carnations are most frequently used. They are made with limber rope stems, no wire being used. Fastened at the top of the door, they are allowed to hang at different lengths, the shortest stems of course in the center of the doorway and the longest at the sides. They should be arranged so the flowers may be seen to the top. It has almost the effect of the Japanese portieres without the expense. Many different kinds of lamp shades may be made with little trouble and cost. They look pretty on an electric light, and have a softening effect. A pretty light pink throws a reddish glow over the room; a dark red looks exceedingly pretty, but darkens the room a little too much. These shades may be trimmed with pretty flowers, butterflies, or ribbons.

For an electric light, any girl could make the wire frame herself. Either the crepe paper can be used or the plain paper may be crinkled by simply twisting and drawing through the hands several times. Then flowers are twined around the top and allowed to fall below the shade quite a distance, the stems following the folds of the shade.

In many homes, great jars of home-made roses may be seen. They look so natural that many people are tempted to smell of them,—then how nice it is to find them perfumed.

Glove boxes, handkerchief boxes, cuff boxes, bonbonnières, photo cases, etc., may all be made of tissue paper, and if tried will be found a very neat, pretty, inexpensive way of decorating.

HISTORICAL NOVELS.

BY PROF. FRANCIS H. WHITE.

THE writer acknowledges a high regard for a first-class novel—a novel strong in plot, interesting in style, accurate in description; a novel that holds the mirror up to nature and society and reflects them without distortion. Right here, lest he be misunderstood, it should be said that not every novel claiming to be realistic deserves that name. Indeed, some of the most pretentious in this respect, some that pride themselves most on their realism because forsooth they drag the reader through the filth, are least true to nature. Isolation is often exaggeration. To separate evil from its immediate consequences, to dwell only on certain traits of character and these only as they are exhibited under abnormal conditions, to leave out of the picture the good, the beautiful, and the true, is like picturing a hospital ward or a dissecting room and labeling it "Life."

The novel has an office and an important one in revealing society to itself, in introducing parts of the social organism to other portions, in making a section, as it were, of social phenomena and placing it under a microscope for investigation. By some novelists this task has been well performed. Howells, for instance, has been quite successful in depicting certain phases of our complex society, and, it is said, intends writing "clear around the circle," thus revealing in turn all the important aspects of modern life.

Other novelists have selected special periods of the past, made a careful study of the times, and by the aid of a vivid imagination have brought the old world to life again. You follow the people to their daily work, enter their homes without permission, and observe their family life; the chief events of the times occur, and, as you read, the present life slips away, the old environment closes around—you are a prisoner of the past. It is a delightful thralldom, however, for you feel yourself in the times and yet not of them; a captive, and yet at any moment able to make your escape.

One is apt to think of historical novels as diluted history, yet some of them are truer than the standard histories—truer in that they convey an impression of life, of the whole, details and all, that a mere accumulation of important facts, stated as they too often are in a turgid and spiritless way, never gives. The chief value of a good historical novel arises from its power of creating around you the atmosphere of the times and in you that subtle times-spirit so essential to the understanding of the period.

But a novel should not be relied on for a philosophy of history, of cause and effect; it should be used as an aid to the imagination rather than the reason. To obtain the best results, the reader should supplement the novel with standard history. Mistakes in fact,

in emphasis, in proportion, are sure to occur in even the best works of fiction, but these can be corrected without much difficulty by a study of the authorities.

A list of novels could be made that would picture civilization almost continuously to the present day. A large number of these, however, are not easily obtained, and so it seems hardly worth while to mention them in this article. A few interesting and helpful books are appended that will indicate what may be expected from this branch of literature.

For the ancient times in Egypt and Persia respectively, read Eber's "Egyptian Princess" and Crawford's "Zoroaster." Kingsley's "Hypatia" gives a good idea of the life of the Alexandrian Greeks in the earlier part of the fifth century B. C. and Bulwer's "Pompeii" of Roman life in the first century. Scott's "Ivanhoe" helps us to understand the feudal ideas and customs of the middle ages in England. Weyman's "House of the Wolf" leads us through the massacre of St. Bartholomew, though we emerge with a sense of relief that those times are over; but Dickens' "Tale of Two Cities" plunges us again in even worse horrors, the French Revolution, and the conviction grows upon us that not only religious, but social and political differences, may cause men to forget their common brotherhood and take a fiendish delight in blood and slaughter. Thackeray's "Henry Esmond" pictures life during the reign of Queen Anne, and Cooper's "Spy" makes us appreciate the difficulties and dangers that were undergone by the patriots of the Revolution. Eliot's "Romola" describes Florence in the fifteenth century, and enlists our sympathy for that remarkable character Savanorola, whose life we follow with unabated interest to the end.

Advice and Cheer for Farmer Boys.

Now that farm work of the season is about concluded, the boys will have at least four months of leisure in which to store up useful knowledge or to waste—or perhaps worse than waste—just as they may elect. Which shall it be? It is rarely a young farmer can have a particle of excuse for not obtaining either a literary or a business education. Some of the Agricultural Colleges have thrown their doors open to those who wish to take a short or a long course, without money and without price. I have observed that those who take a short course are rarely satisfied to rest there, but desire to—and do generally—go up higher. Even a short course gives one an awakening that will urge him on all through life to better methods of farming. I have yet to see one who took either course at an agricultural school, and then return to the farm, who did not go right ahead in improved methods and take a leading position among the agriculturists of his locality.

I have watched the career of a farmer's son from his early school days to the present, when he is some over thirty. His father had a very small farm, but a very large family. The boy was determined to obtain a college education. He was never known to spend money needlessly or to waste time or anything else. All the money he could get was expended for books. Later he worked one summer for a wealthy man, who said he never knew the young man to slight a task, to be wasteful in any respect, or to equivocate a particle. A convenient school fitted him for college, whither his father sent him, with the understanding that the expenses should be returned when the young man became able to do it. When he graduated his wealthy former employer urged him to accept the loan of means "to make the tour of Europe just to polish off, you know." He took \$800, was abroad a year, brought \$200 of it back, and secured a position as college professor, has paid all his debts, has a nice home of his own and several thousand dollars in bank. These cases are cited to stimulate other young farmers to go and do likewise. Only determination, strict honesty, and perseverance are required to succeed, provided there is no natal defect in one's make-up.—Dr. Galen Wilson, in *New York Tribune*.

The Prosperous Farmer a Reader.

It is said that there was once an animated discussion on the relative advantages of a liberal education and of the "short course" method, which was then coming into vogue, as a preparation for professional life. Each party advanced strong arguments, but by the quotation of a remark which had been made by an old lumberman to the effect that it always paid him to grind his ax before he began to chop, the day was carried in favor of the old system of thorough preparation.

The principle which the lumberman stated applies to all lines of human effort. If a man is to do really efficient and profitable work, he must make a suitable preparation for its performance. If he neglects to do this he will find himself unable to surmount the obstacles which lie in his path.

The long evenings are now at hand, and they bring to the farmer magnificent opportunity to equip himself for the work of the busy seasons to which he looks forward. He will have no better time in which to grind his ax. It is true that there will be meetings of various kinds which he should attend, and that

social duties should not be neglected, but there will still remain a good deal of time in which to study the leading principles and become familiar with the most approved methods of practice which relate to farm affairs.

As compared with those of a former generation, the farmers of today are "exalted to Heaven in point of privilege." They have helps of which their fathers never dreamed. Science, discovery, and invention have done wonderful things for them in the way of making their work pleasanter and its rewards more abundant. Experiment Stations maintained by the Government are constantly and efficiently working in the interest of the farmer, several of the Agricultural Colleges have prepared courses of home reading and study which are extremely valuable to all who are unable to obtain a liberal education, and papers devoted to agriculture furnish a means of improvement which no farmer can afford to neglect. The careful study of the *Farmer* from now until the next busy season opens will prove a wonderful benefit to anyone who tills the ground. This, not only on account of what he will learn directly about the various phases of his business, but also because of the quickening of his intellectual powers which will result. No one can carefully read the *Farmer* and the leading agricultural books without having his intellectual powers strengthened and his ability for effective work increased. The reading farmers are the prosperous farmers, not merely or principally because they learn what has been done by other men, but very largely on account of the ability for successful management which has come to them through the mental development and discipline which their reading has given.

We regard the multiplication of farm books and the rapidly increasing subscription lists of this and similar papers as among the most hopeful features of the agricultural situation. They are at once an indication of intellectual activity and a prophecy of solid and enduring success.—*Practical Farmer*.

How a Mulch Acts.

The value of a mulch is only partially appreciated by Americans, and there is a wide field for development in using mulches of all kinds. We obtain our ideas of mulches from the prairies and forests, where nature forms her own mulch. The decaying leaves and stems soon form a mass on the surface, which prevents the soil from losing much of its moisture. This leaf mold and accumulation of vegetable matter acts as a protecting covering for the soil, and it will be found around the tree in every forest, and around the roots of wild grasses on every meadow. In imitating nature, as she works in the field and forest, we adopted the artificial mulch around our fruit trees, and that it worked to their advantage. A mulch, besides retaining the moisture in the soil, also secures a more uniform temperature and adds considerable plant food for it. The nature of the mulch is an important part of the work. Flat stones may be used around the trees, forming a permanent mulch, but their action is merely mechanical. It retains the moisture and temperature of the soil, but it adds nothing to it. Sawdust is but little better, but straw and new mown lawn grass form rich mulches that add plant food to the soil.

The exact change which takes place in the soil when a covering is placed over the surface is not generally understood. Some chemical change takes place, and the soil is enriched for a time. In some of the gardens of France the benefit derived from shading a portion of the soil is understood and carried out successfully. Tiles cover the strawberry beds, with holes made through them here and there for the vines to grow out of. Flower gardens are likewise covered with tiles or cement, leaving no part of the soil exposed except where the plants come through. Expert horticulturists there find this method of great advantage. In a less expensive way parchment paper can be used for covering the garden soil. Brown paper dipped in sulphuric acid should be used for this purpose, it is then made tough and waterproof. In times of drought this mulch acts splendidly. It retains the water, accelerates the growth of the plants, and keeps down the weeds. More experiments with mulches will in time make gardening much easier and more profitable. The parchment paper mulch, however, for small places is the simplest, cheapest, and most effectual that has yet been experimented with.—A. B. Barrett in *New England Farmer*.

How I Teach a Colt.

When I wish to teach a colt to carry a saddle, I first put a blanket on him, folded to about saddle size, then a surcingle strapped loosely. At the next lesson I make the surcingle quite tight; at the third lesson very tight. At the fourth lesson I tie the colt to the hitching post, and put a boy on him. He soon gets accustomed to the weight and does not mind it; then I take the boy off, remove the blanket, and put on the saddle; then put the boy in the saddle, letting him sit there for fifteen minutes, but moving himself about, and otherwise making himself conspicuous. Then put the saddle on the horse, put the boy on horseback, and lead the horse about fifteen minutes; then I give the lad the reins and let him gently exercise the horse for half an hour.

After this course of training, any man or boy can ride the colt, provided he has sense enough to manage him kindly.—*Dumb Animals*.

FARM NOTES FROM VARIOUS SOURCES.

Farmers who believe that farming does not pay should ask themselves if they are using the best kind of stock and if their implements are of the most improved labor-saving makes; also, if they allow their manure to go to waste and if weeds are allowed to rob the soil and plants. Farming, like any other business, pays in proportion to the skill bestowed in the management.

At the end of the year each farmer should survey his work and compare his expenses with his receipts. Credit that which was purchased for the family, and also the proportion of product of the farm that was consumed, as well as estimating the value of the manure and increase of stock. The result may show that the farmer has made a fair profit. Keep accounts next season, and learn what has been done.

Some farmers' wives are almost slaves, overworked women, to whom life does not bring the brightness it should or might. Many a farmer has died and left property—quite a large amount of it—that was a curse to his children. That would have been an untold blessing if half of it had been spent as they went along from year to year in giving wife and family more comforts and pleasures and less burdens.—T. B. Terry.

I want to say a word for the encouragement of farmers. If there is one class of men that is on the safe side, that is surer of a comfortable living than another, that class is the farming class. The farmer has an assistant that no other man has. Nature is working with him and for him every day. It is true he meets with difficulties all along the line of life, but somehow or other he gets over them and moves upward. He may be discouraged at times, but not disheartened.—R. W. Murch.

The Belknap County (N. H.) *Grange* has been discussing "Leaks on the Farm." Condensed from the report of the *Mirror and Farmer*, they are: "Lack of method in farming, and hesitation in stepping out of ruts into new paths. Our manufacturers are forced to adopt new methods, and we must be ready to adopt the new. Our greatest leak in this State is the boys and girls from the farm. We have said too much about the farm not paying, and have had too little of social life. The hard times have scarcely touched farmers, while business men have never suffered more."

Prompt improvement is the watchword for horsebreeders to be able to supply the great and increasing demand for heavy draught horses. So many breeders lost their courage and quit breeding, or bred to cheap, small sires, that the supply of good heavy horses is about exhausted, while the general improvement in business has increased the demand, and Eastern buyers already find it difficult to pick up a carload of big draughts, even in the best draught-horse counties. Our readers should promptly prepare to supply this demand by securing the best draught mares, and see that good, heavy draught stallions are available for breeding next spring. Good mares are scarce and good stallions are scarcer, but some can yet be had if you pay price enough for them.—*Western Agriculturist*.

The idlers in the great cities to-day are not the same stuff that developed the pioneers yesterday. They are built of altogether different material. They have neither the native intelligence, the courage, nor ambition necessary to succeed in new undertakings. Very few of them would know what to do with an acre of land after they came into possession, unless it was to sell it and live upon the proceeds until they were gone. If they had known; if they had been competent to wrest a living from the soil, they would not now be starving in the cities while waiting for some kind of employment, no matter how menial, to be offered them.—*Colman's Rural World*.

Just stop a minute and see if you can tell what you are worth in dollars and cents. Dollars to cents that not one farmer in ten cares to do it. Well, then, won't you go to work and make an invoice of your property as a merchant does? Put it down in a handy little blank book. Farm so much; horses, cattle, and other stock each so much; implements, grain, hay and other stores at their actual value, and add it all up. This will give a total value of your assets. Then in the same book put down your different debts, including taxes, and sum them up and subtract this amount from the other, and you will perhaps for the first time in your life know just how much you are worth. Keep this, and a year from now go through the same course and compare the balance then with the one now, and you can see if you have made or lost money during the year. Try it, and see where you are.

There are farmers who will toil the whole season through, caring for their crops in the most intelligent manner, and the yields are evidence of the right kind of farming, yet when the crops are gathered they are stored away without proper care, ignoring rules and regulations strictly in order to properly save and put the crops away. This is certainly like the saying about the cow that gives a bucketful of good milk and then kicks it over. It is necessary that all crops be carefully harvested. The hay must be properly cured and should be put away under cover or if stacked should be done by an expert. There are tons of hay lost every year on many farms from poor stacking—in fact enough in many instances in one season to pay more than the cost of making hay barracks that would provide ample room for the entire crop of hay raised on the farm. The corn crib is situated so that it is exposed to the elements, the rains beat in and bushels of corn mold and sprout. Perhaps a couple more boards added to the eaves of the roof would stop this loss—but they don't get added, and the same old story goes on from year to year.

Calendar.

1894-95.
Fall Term—September 13th to December 21st.
Winter Term—January 8th to March 29th.
Spring Term—April 1st to June 12th.
June 12th, Commencement.
1895-96.
Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Mrs. Wilkin spent Friday at the College.

Prof. Failyer's family ride in a new cut-under surrey.

Mr. and Mrs. E. L. Brockway, of Manhattan, were in attendance upon chapel exercises yesterday.

Mrs. G. F. Dewey and daughter Ione Dewey-Earle, '93, were among visitors at Chapel exercises yesterday.

C. B. Selby, Fourth-year, on Saturday last made a flying trip to his Oklahoma claim, returning on Monday.

Prof. Will lectured before the Clay County Teachers' Association last evening on "The End of Education."

Prof. Mason and Mrs. Kedzie took part in an Institute at Hayes City on Thursday and Friday, and Prof. Mason gave his presence to a like meeting at Russell on Friday.

Mr. C. P. Copeland, of Russell, stopped off Friday to visit his son in First-year classes, and spent the forenoon looking in upon College work. This being his first visit to the institution, he found much to interest him.

Prof. Georgeson and Prof. Jones will represent the College at a Farmers' Institute to be held at Leonardville next Thursday and Friday. Prof. Hood and Mrs. Kedzie assist in an Institute at Nortonville on Tuesday and Wednesday, the 11th and 12th.

Hon. Wm. Knipe, Representative of this county, addressed the students Friday morning in chapel. He was accompanied by his son, Wm. Knipe, Jr., who holds a like position in Payne County, Oklahoma, in which is situated the Oklahoma Agricultural College.

The students and visitors were entertained at the public hour yesterday by the members of the Sixth Division of the Third-year Class, who delivered declamations as follows: "Nature's Carnival," Bret Hull; "Our Spectacles," Joanna Freeman; "A Defense Against Tyranny," C. H. Hoop; "Discontent," Mary Painter; "Unpatriotic America," J. W. Holland; "The Two Ends of a Telescope," Myrtle Hood; "Greenback Money," G. C. Hall; "Friendships," Lynn Hartley; "Money in Politics," A. C. Havens. Emelie Pfuetze and Gertrude Lyman, assisted by Hilda Leicester, varied the program with a vocal duet. The Cadet Band furnished the opening selection.

The Senior and All-College football elevens met at the City Park yesterday afternoon in a spirited contest witnessed by a goodly number of spectators. The Seniors outclassed their opponents in weight, at least, and bucked the center for gains varying from four to ten yards many times. In the first half, the Seniors scored by a touchdown and a goal, and later, in a "down," Will found the ball lying unnoticed on the edge of a mass of legs and arms, and was immediately thereafter seen sprinting goalward. Passing Otten by a close shave, he scored a touchdown and Johnson kicked goal, tying the score. In the second half, the Seniors varied their tactics by several runs around the ends for slight gains, finally scoring a touchdown and Conrad kicked a goal. In the "kick-off" following, Menke sent the ball down the wind within three yards of goal, but the undergraduates gradually lost the advantage thus gained, and when time was called the Seniors were only a few yards from the goal line. Score—Seniors, 12; All-College, 6. Referee, Prof. Jones; Umpire, Breese.

A Proposed "Branch" of the Agricultural College.

A petition to the President of the United States is being circulated praying that he set apart the Fort Hays military reservation for the benefit of Kansas to be used as a western branch of the Agricultural College and a western branch of the State Normal School. Proper measures will be introduced into Congress and the Legislature, to complete the program as marked out on the petition.—*Ellis Headlight*.

This excellent idea was proposed to Congress two years ago, and fell by the wayside. The idea is so reasonable, however, and so fitting to the Ft. Hays reservation and the needs of western Kansas agriculture that, if all the members of Congress from Kansas will unite in pressing the matter in both Houses, it should carry. Congress can afford to contribute this small favor to the farmers who have purchased government land, cultivated it, and endeavored to reclaim it from the wilderness. There is a sufficient difference in the climate, soil, and general conditions of the location of the Agricultural College and the

western third of the State to make an auxiliary branch of the College for experimental work in that region of positive value to the people. Whatever the Representatives of Kansas in Congress can do for the benefit of the western part of the State, and whatever the State Legislature can do, will no doubt be done. The utilization of the Ft. Hays reservation for agricultural purposes is of the earliest and best objects that the delegation can work for.—*Topeka Capital*.

GRADUATES AND FORMER STUDENTS.

C. C. Smith, '94, teaching in Waubunsee County, was a visitor yesterday.

Edith McDowell, '93, found time to spend a few hours at College yesterday.

Fannie J. Cress, '94, is taking a course of normal training in the Steubenville (O.) schools.

W. S. Arbuthnot, '91, of Belleville, stopped over at College Thursday on his return from the western part of the State.

Mrs. Callie Conwell-Thoburn, '92, of Peabody, rounded out a week's visit at home by spending Friday at the College.

H. C. Cobb, Third-year 1891-2, is manager of his father's drug store at Muskogee, Ind. Ter., where he finds his training in chemistry of much value.

Mac F. Hulett, '93, and Miss Adelaide Sanford were married November 29th, at Topeka. They will be at home, 117 Park Street, Lawrence, after December 17th.

C. H. Thompson, '93, instructor at Shaw School of Botany, St. Louis, is kept busy with his school studies and his studies in special work. He plans to spend the summer vacation with his parents in California.

M. A. Carleton, '87, assistant in the Division of Vegetable Pathology, U. S. Department of Agriculture, at Washington, writes of having just finished seeding 800 varieties of wheat for rust experiments at Garrett Park, Md.

Sadie McCormick, Phoebe McCormick, Second-years in 1890-1, and their cousin Miss Allen, of Lawrence, Iowa, visited College friends on Friday. The young ladies start soon on a six months' visit to Mexico and California.

H. L. Pellet, '93, at home on the farm near Prairie Center, in addition to his duties as agriculturist has built three houses since leaving College. He hopes to take up post-graduate work at the College after the Christmas holidays.

The Topeka Capital of December 6th publishes the following interesting news concerning two graduates: "The law firm of Call & Ingalls has dissolved, and Chas. J. Dobbs ['90] and Geo. E. Stoker ['90] succeed to the practice under the firm name of Dobbs & Stoker. Mr. Call goes to New York to locate, and Ralph Ingalls intends to establish an office in Kansas City. The organization of the new firm has been under consideration for some time. Mr. Dobbs has been connected with the office for upwards of four years, and is the legitimate successor in the change. Geo. E. Stoker, the junior member of the new firm, is the son of G. C. Stoker of North Topeka. He was born and raised in Topeka. He graduated from the State Agricultural College at Manhattan, and then studied law at Harvard University. After graduating there he was located for some time with Dorn & Dorn, attorneys in San Francisco, Cal."

The Weather For November, 1894.

Temperature.—The mean temperature was 40.925°, which is 1.385° above the normal. There have been twenty-two cooler, and thirteen warmer Novembers in the period covered by our record, the warmest being in 1866 when the mean temperature was 45.65°, and the coldest in 1880, when it was 31.09°. The maximum temperature was 79°, on the 12th; the minimum, 6°, on the 17th,—a monthly range of 73°. The greatest daily range of the thermometer was 50°, on the 25th; the least, 10°, on the 30th. The warmest day was the 15th, with a mean of 55°; the coldest, the 16th, with a mean of 21.75°. The mean temperature at 7 A. M. was 30.5°; at 2 P. M., 54.07°; at 9 P. M., 39.57°. The mean of the maximum thermometer was 57.1°; of the minimum, 27.06°; the mean of these two being 42.08°.

Barometer.—The mean pressure for the month was 28.931 inches, which is .12 inch above normal. The maximum was 29.347 inches, at 7 A. M. on the 28th; the minimum, 28.243 inches, at 2 P. M. on the 15th,—a monthly range of 1.104 inches. The mean at 7 A. M. was 28.954 inches; at 2 P. M., 28.898 inches; at 9 P. M., 28.941 inches.

Cloudiness.—The per cent of cloudiness for the month was 31, which is 8 per cent below the normal. The per cent of cloudiness at 7 A. M. was 26.66; at 2 P. M., 40; at 9 P. M., 26.67. One day—the 30th—was entirely cloudy, one—the 7th—was five-sixths cloudy, three were two-thirds cloudy, four were one-half cloudy, six were one-third cloudy, nine were one-sixth cloudy, and six were cloudless.

Rainfall.—The total rainfall was .105 inch, which is 1.215 inches below the normal. Rain fell in measurable quantities on but two dates,—the first, .08 inch, and the 30th, .025 inch. The total rainfall of the year up to December 1 is 20.51 inches. This is 8.63 inches below the normal of our record. Wheat is beginning to show the effects of the dry weather, and is at this time in a critical condition. The ground is very dry, and the chances for rain at this season not good.

The outlook for a wheat crop in 1895 in this section is discouraging.

Wind.—The wind was from the southwest 24 times; north, 21 times; northeast, 12 times; east, 11 times; south, 8 times; northwest, 7 times; southeast, 4 times; west, 3 times. The total run of the wind for the month was 7680 miles. This gives a mean daily velocity of 256 miles, and a mean hourly velocity of 10.67 miles. The highest daily velocity was 468 miles, on the 15th; the lowest, 110 miles, on the 29th. The highest hourly velocity was 33 miles, at two different hours on the evening of the 14th, between 9 and 10 and again between 11 and 12.

The following tables give a comparison with preceding Novembers:—

November.	Number of rains.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858.....	9	.69	...	...	33.81	58	11	...	...	...
1859.....	2	1.20	69	...	45.43	84	10	...	...	...
1860.....	4	1.58	37	NW	36.93	68	10	...	...	...
1861.....	2	.70	36	NW	42.26	74	16	...	...	...
1862.....	3	1.70	37	N	43.42	72	23	...	...	...
1863.....	4	2.23	34	SW	38.61	68	1	...	...	...
1864.....	4	1.61	41	N	36.20	58	10	...	...	...
1865.....	...	...	...	...	...	...	...	...	...	...
1866.....	3	1.37	34	W	45.65	81	20	...	...	...
1867.....	2	.49	27	SW	44.48	96	7	...	...	...
1868.....	2	2.17	47	SW	38.08	62	16	...	...	...
1869.....	5	1.19	52	NW	36.87	65	20	28.77	29.20	23.30
1870.....	2	.13	23	SW	44.80	74	17	...	...	...
1871.....	2	1.96	54	SW	36.90	72	4	...	...	...
1872.....	0	.00	40	NW	33.67	70	2	...	...	...
1873.....	2	.82	40	SW	41.63	79	12	28.71	29.06	28.17
1874.....	5	2.12	58	SW	38.59	78	3	28.77	29.28	28.00
1875.....	3	.34	52	SE	35.97	70	-2	28.81	29.45	28.32
1876.....	2	1.75	52	NW	37.15	70	0	28.85	29.50	28.36
1877.....	6	1.90	53	NW	38.70	65	2	28.80	29.31	28.45
1878.....	2	1.90	35	NE	43.44	75	15	28.63	29.12	28.25
1879.....	6	7.83	45	S	42.72	70	15	28.74	29.25	28.18
1880.....	4	1.97	50	SW	31.09	67	7	28.74	29.21	28.25
1881.....	3	1.86	43	SW	39.24	68	7	28.70	29.11	28.17
1882.....	3	.95	42	SW	40.56	79	15	28.79	29.09	28.34
1883.....	1	.30	33	SW	41.45	69	1	28.72	29.23	28.06
1884.....	2	1.07	40	N	42.33	70	12	28.59	28.92	28.15
1885.....	1	.19	21	SW	42.78	84	22	28.63	29.02	28.43
1886.....	2	1.24	32	SW	39.09	79	12	28.52	29.35	28.34
1887.....	1	.29	32	N	40.85	85	-9	29.10	29.60	28.67
1888.....	4	.94	32	N	37.32	78	14	29.05	29.47	28.61
1889.....	4	2.23	42	N	35.17	66	11	29.03	29.52	28.51
1890.....	2	.91	30	SW	41.94	76	16	29.02	29.53	28.49
1891.....	1	.25	33	SW	38.69	86	8	28.93	29.51	28.41
1892.....	1	.65	26	SW	39.77	72	13	28.90	29.32	28.48
1893.....	3	.81	25	SW	37.10	79	9	28.91	29.31	28.38
1894.....	2	.10	31	SW	40.93	79	6	28.93	29.35	28.24
Sums.....	112	47.44	1378	...	1423.6	2646	366	662.67	673.69	651.56
Means.....	3	1.32	39	SW	39.54	73	10	28.81	29.29	28.33

WIND RECORD.

November.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889.....	5477	182.84	344	47	7.62	26
1890.....	5938	197.93	323	51	8.25	26
1891.....	7938	264.60	529	64	11.03	36
1892.....	7956	265.20	570	94	11.05	43
1893.....	6966	232.20	467	48	9.67	33
1894.....	7680	256.00	468	110	10.67	38
Sums.....	41955	1398.77	2701	414	58.29	202
Means.....	6992	233.13	450	69	9.71	34

C. M. BRESEE, Observer.

COLLEGE ORGANIZATIONS.

Student Editors.—F. J. Smith, W. H. Phipps, Ethel Patten.

November 30th.
The Ionians were called to order by President Thompson. Gertie Rhodes gave the opening song, and Gertie Stump led the Society in prayer. After the roll call, we passed at once to the order of new business and discussed the advisability of charging an admission fee at the annuals. Returned to the program, which was opened with an original story by Gertie Lyman. This was followed by a vocal solo by a grammar school girl, Gertie Eakin. Next on the program was a parliamentary quiz by Nellie Burton. The discussion on the question, "Which is of the most practical benefit to a woman, a Scientific or a Literary Education?" was supported on the affirmative by Maggie Carleton, and on the negative by Ellen Norton. A vocal solo by Gertie Lyman closed the program. During the session the room became so dark that the lights were turned on. After the usual routine of report of committees, business and roll call with quotations the Society adjourned.
E. E. N.

December 1st.
Saturday evening the Websters produced one of the best programs of the term, and their parliamentary work was of an unusually good quality. E. H. Webster led the Society in prayer. The debate was well handled, the arguments brought forward were thoroughly substantiated. Question, "Resolved that our penal laws should be more stringent." The affirmative was upheld by J. B. Harman and W. H. Stewart who won the question from the negative, F. R. Jolly and S. Dolby; G. F. Lechner next gave a vocal solo. A declamation by C. H. Lehmkuhl was well committed and of interest to all. E. C. Lawry in his essay on "College Interests" showed much originality and did credit to himself and the Society. The next number was a forcibly delivered oration on "Tariff Reform" by L. W. Hayes, which was followed by a vocal duet, E. B. Patten and H. A. French, that spoke well for their ability. W. B. Chase closed the literary program with a discussion on the then undecided issue, regarding the charging of an admission fee to the annuals. A great deal of interest was shown, and gen-

eral discussion on the same subject followed. The work of the new members is exceptionally good, and shows strong interest in Society duties. Under business the Society engaged in some knotty parliamentary problems which were brought up while considering an amendment to the constitution. Several committee reports were heard and the committees discharged. Adjournment 10:20. A. G. B.

December 1st.

Roll call showed a goodly number of Hamiltons in their seats ready for another lively session. C. E. Pincomb led the Society in devotion. The program began with a declamation rendered in a very able manner by Leslie Fitz. H. E. Smith read an essay on "A Reckless Bicycle Ride," in which was a lesson for inexperienced riders. The declamation by Stanley Robbins was instructive and thoughtful, embodying good counsel in behalf of mental culture. W. I. Joss's oration, entitled "Worry and Its Effects," offered good food for thought and meditation. Time having passed swiftly, and the program being continually interrupted by promising and anticipating parliamentarians, the Society took a short recess. The Hamilton news agent, C. Snyder, re-opened the program, giving a limited report of the social, political, and commercial events of the week. An interesting select reading was given by H. L. Thomas. Next the "Hamp" songsters arranged themselves about the piano, and soon the air was resonant with the melodious strains of music. Being heartily enjoyed, they responded with a similar selection. The bi-monthly Recorder was presented by its editor, C. E. Pincomb, having for its motto "He who seeks to brag of his own gain shall surely fall." The contents were thoughtful throughout, being enlivened by bits of humor and satire. Under discussion, E. L. Smith traced the development of the timepiece from its most primitive form up to its present improved condition. An interesting business session followed, which was only adjourned by the assistance of the incandescents. E. C. J.

November 30th.

When President Phipps called the Alpha Beta Society to order, almost every chair in the house was filled. A large number of old members were present. Music, organ and cornet, Miss Gilkerson and Mr. Rambo. Elva Palmer led in prayer. W. S. Morgan read a story of Thanksgiving from the turkey's standpoint. George Fryhofer showed the Society what kind of company he keeps in a very amusing impersonation. The debate was on the question, "Resolved, That the Faculty have a right to prohibit football at the Kansas State Agricultural College." The affirmative was sustained by J. J. Fryhofer and A. C. Peck. They held the Faculty to have a right to prohibit football, as a means of sustaining the high reputation of the College and for general good of students. This they sustained by showing how football is detrimental to our welfare. The negative was upheld by M. A. Limbocker and Josephine Finley. They showed up the bright side of football, how it develops the physical man and strengthens the spirit of competition so necessary to success; how football players usually stand high in classes, and concluded the Faculty in such case had no right to stop it, especially out of school hours and off the College premises. The judges, Jennie Smith, Deipha Hoop, and Nellie McDonald, decided two to one for the affirmative. Trio, Miss Gilkerson, May Willard, and Kittie Smith. A. H. Morgan presented the Gleaner. After recess, the Society listened to an organ solo by Miss Gilkerson. After the usual business session, the Society adjourned. J. B. S. N.

Be Content at Home.

A great many girls from the country find their way into the cities. How to account for it is not clear, but there seems to be something in our make-up which creates a desire for some sort of a change. We are never quite satisfied with existing circumstances. Instead of comparing our condition with those who are not so far off, we are continually looking upon those whom we think are more highly favored than we are, and so we become dissatisfied.

The temptations which the boy comes in contact with when he goes out into the world to seek his fortune are so great that probably not over five out of every hundred live up to their home training. The temptations which come to a young woman are greater, but she has not the independence, and is therefore made helpless to fight against them. If our girls only know that leaving a home with sweet associations and the comforts of life, they would probably in ninety-five cases out of a hundred only meet with every discouragement and temptation, there would be more contentment around the fire-side. All is not gold that shines on the outside. There is deeper and purer happiness often in the humble home than can be found in the showy residence of the millionaire. Better hearts, and happier ones, too, beat beneath plain calico or gingham than under the fancy silk corsage of many women of wealth.

To be content to live day by day, doing the very best according to our ability, always aiming, of course, at the higher ideals of life, is worth more than the accumulation of any amount of money, or the winning of fame.—*Farm and Fireside.*

Short Lecture Course for Farmers.

Beginning on the first Tuesday of February each winter, a two-weeks course of lectures is given on agriculture and related arts and sciences. This is provided for those farmers and others who cannot take up the fuller work of the regular College classes. Members of the Faculty are assisted in delivering these lectures by prominent farmers, stock raisers, and fruit growers of the State; and full discussions of the topics presented bring out the varied experiences of those attending. This course, during the winter of 1893, was attended by about 40 farmers.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The State Normal Quarterly has become a monthly.

The Musgrave Business College at Manhattan is no more.

The attendance at the State Normal School is running about 125 ahead of last year at the same time.

Judge Emery will deliver a course of lectures on irrigation at the State University sometime this winter.

The Students' Journal of the State University has a new engraved head. It looks like an octopus with the jim-jams.

The Kansas Supreme Court has appointed James L. King of Topeka, to be State Librarian, to fill the vacancy caused by the death of H. J. Dennis.

Miss Mattie Hussey, a Lyndon school teacher, attempted to whip a 14-year-old boy named Ellis Black, and was stabbed four times in the right arm.

The Board of Education of Fort Scott has elected Mr. D. M. Bowen, the principal of the city high school, superintendent of the city schools in place of Mr. Guy P. Benton, who has been made Assistant in the State Superintendent's office.

Suit has been brought against the Board of Education of Emporia and a temporary injunction granted by the Judge in chambers restraining the Board from carrying out a resolution which declared a vacation Thursday and Friday and allowed the teachers pay for those dates. There are forty teachers, and the wages for those two days amount to about \$250. The suit is brought as a test case and will probably be carried to the Supreme Court.

The North Central Kansas Teachers' Association closed a three days' session at noon last Saturday. About 400 enrolled. J. W. Hullinger, Junction City, was elected President; J. H. Niele, Abilene, Vice-President; Mrs. Carson, Clay Center, Secretary; A. Henry, Minneapolis, Treasurer. Addresses by President Fairchild, President Taylor, and John McDonald were leading features. The Association adopted resolutions favoring electing a superintendent at the July meeting and giving the country teachers a place on State Board of Education. Next year's session will be held at Beloit.

President A. R. Taylor, of the State Normal School, has written a little book on "Civil Government of Kansas." It embraces a synopsis of the constitution of the State, the election laws, the duties of State and county officers, and many other matters important to the student and to young persons seeking a knowledge of the machinery and working of our State and county governments in all departments. To politicians, and persons of every calling, it is valuable for reference, and no doubt the demand for the work will soon exceed the supply. It is published by Heath & Co., Boston.

A Plea for Fancy Farming.

F. L. Hooper, of Baltimore County, Md., makes a plea for fancy farming in the *Farmers' Review*. The Agricultural Experiment Stations of the country are doing the identical work Mr. Hooper would have the "fancy farmer" undertake; and failures and mistakes are as readily given place in their bulletins as are successes. Mr. Hooper says:—

"It is not difficult for a man to raise good crops if he has got money enough. A rich man can walk out of the city and in one year put ten thousand dollars' worth of expense upon a poor farm. He can make a soil if he has money enough. But wheat that sells for \$1 a bushel will cost at least \$3; and corn for 50 cents will have cost \$2. It is not hard to get good crops if profit is of no account. A rich man plays with a farm as children do with dolls, dressing up to suit his fancy, and quite indifferent as to expense or profit. It is his fancy and not his pocket that he farms for. Such men are not useless. They employ many hands. They try a great many experiments which working farmers cannot afford to try. They show what can be done. And American farmers, although they will not imitate, will do better than that—they will take hints in this thing and that, and by gradual improvement they will raise their own style of farming many degrees. Every township ought to have one gentleman farmer who aims to show what soil can be made to do. In his case it may not be remunerative. His very mistakes will be useful. A mistake is often (though rarely reported) more instructive than a success. But it is not every farmer who can afford so dear a school master. This class of fancy farmers have done a wonderful good to the agricultural class in one particular respect, that is, in the distribution of improved live stock. Perhaps in thousands of places in our country, improved breeds of horses, cows, sheep, swine, and poultry have been introduced through the generous or lavish expenditure of money in the purchase of the best breeding stock by the so-called fancy farmers, and by this means they have been, in the course of time, distributed in the immediate neighborhood, and to this day are bearing fruit that is beyond estimate, in the good they have bestowed upon the country at large."

The experiment stations have done more than all this; they have furnished a trustworthy standard of value for all milk, by demonstrating that all milk is valuable for drinking, for creaming, for butter-making, and for cheese-making, in proportion to the per cent of butter fat that it contains.—*Jersey Bulletin.*

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MANHATTAN, KANSAS.

MANHATTAN ADVERTISEMENTS.

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KANSAS STATE HORTICULTURAL SOCIETY.

BY PROF. S. C. MASON.

THE twenty eighth annual meeting of the Kansas State Horticultural Society was held in Fort Scott December 11th, 12th, and 13th. The attendance was not so large as usual on these occasions, doubtless in part on account of the distance of this city from many of the members; but to those who attended the papers and discussions were of such interest and value as to leave no question as to the profitableness of the trip.

The meeting will mark an era in the history of the Society in the retirement from office of the Secretary, George C. Brackett. The Society was incorporated in 1869, and Mr. Brackett has held the office of Secretary since that time. Of the influence of this Society upon the horticultural interests of the young and rapidly developing State, too much cannot be said. The admirable and discriminating work of the Secretary in gathering and distributing information, in organizing the force of correspondents and in editing the reports has been the vitalizing force of all this usefulness. The very excellent series of annual and biennial reports has given both the Society and its Secretary a high standing throughout the horticultural world. It was with deep regret that the many friends and admirers of Mr. Brackett learned that failing health admonished him to ask release from the trying duties of the office, that he might try the effect of the milder climate of California.

The President, Judge L. Houk of Hutchinson, and the Vice-president, Hon. Martin Allen of Hayes City, who have held these offices so creditably during the past eight years, asked that their duties might be handed on to others, leaving only the Treasurer, Major F. Holsinger, of the old management. In the choice of a new President, the thoughts of the members at once turned to Judge Wellhouse, whose success in apple growing has been published as far as apples are eaten. No one could have been chosen equally well fitted to lead the Society into still broader fields of usefulness. J. W. Robison of Butler county will ably represent the interests of that portion of the State in the office of Vice President.

When the selection of a Secretary came up, candidates were numerous, this being the only salaried office in the Society.

It was just here that the members felt that a most careful selection must be made. The choice was happily made of Senator Edwin Taylor of Edwardsville, the "Potato King" of Kansas, as he is sometimes called.

Senator Taylor was prevented from being present at the meeting, was not a candidate, and did not know that his friends would present his name, but the feeling prevailed that there was no one in the Society so well fitted to take up the work laid down by Mr. Brackett. Mr. Taylor's splendid business qualifications, scholarly attainments, and love of horticultural pursuits all point him out as the man to maintain the high standard of excellence already attained and to push the work with vigor along all lines.

A resolution was passed removing the Society office from Lawrence to Topeka, and a committee appointed to secure quarters for it in the State House.

Since the organization of the State Horticultural Society the fruit-growing interests of Kansas have spread from a few countries along the eastern border to the Colorado line. Irrigation has come to be a prominent factor in fruit and vegetable growing, and some of the finest apples shown at the late meeting were raised by irrigation in Kearney County, while at the Garden City fair last autumn, the display of apples, in beauty and perfection of specimens, would have challenged the eastern counties to do their best.

The legislative appropriations for the expenses of this Society during the past few years have been wholly inadequate to the demands upon them by the great growth of horticultural interests. The editions of the Biennial Reports, which are not surpassed in value by any in the United States, have been so meagre as to scarcely afford one copy to a township. Instead of this they should be in the hands of every reading horticulturist and farmer in the State, with ample surplus for exchange with kindred societies and libraries throughout the world. With the advent of irrigation in our State, farming will assume a more intensive character, and much of it will be of the nature of gardening, as in the older and more thickly populated portions of the country. The gardening and fruit-growing possibilities in Kansas by means of pump irrigation have as yet only been

hinted at. What better investment of public money could be made than to provide the Secretary of the State Horticultural Society with ample means for studying the needs of the whole State and for the publication of an edition of the next Biennial Report sufficient for the demand that is sure to be made for it? The publication of quarterly reports and timely bulletins should also be made possible.

It is to be hoped that every one interested in the progress of horticulture in our State will use his influence, by writing to or visiting his representative in Topeka, to give to this grand old Society the financial support which it can so profitably use.

THE HARRIS SPARROW.

BY PROF. D. E. LANTZ.

NEARLY every season, sometime during October or November there comes a period of warm, dry weather lasting from ten days to two weeks. It seems to be a period of rest in bird migration. Nearly all the summer residents have gone south; and the early stream of migrants from the north has passed by. The hardier birds which stay with us only during the winter months have not yet arrived from the north. This period is especially marked by the apparent absence from our woods and fields of nearly all bird life. Even our resident birds seem to be hidden away from their usual haunts and are silent. The early morning is sometimes enlivened by a few notes from the meadow lark or the call of the yellow-shafted flicker.

But should the wind change into the north and a cold, frosty night occur, or a cold rain set in, there is an immediate change in the bird life around us. The resident birds appear only in sheltered places, but they are no longer silent, but greet us with their familiar call notes. Then, also, the tide of migration starts anew. Overhead the notes of geese and other water fowl going south are heard. The migrating sparrows now appear in numbers; and almost the first of these to greet us with its familiar notes is the Harris sparrow, *Zonotrichia querula* (Nutt.) This bird is a little larger than the English sparrow and very similar to it in coloring. The adult male is distinguished by a very distinct black head and throat marking. The bird has a note much more sharp and distinct than that of the English sparrow and a long-drawn-out, querulous song that is quite peculiar. But this song is not common at the time of autumn migration. His sharp call notes uttered in quick succession are, however, always characteristic.

A common haunt of this sparrow is the hedgerows along our waysides. Here he is always to be found in the fall and spring in flocks, and it is only in severe weather that he seems to be driven into our deeper woods and thickets. A long-continued period of severe weather will drive them into Southern Kansas or the country between Kansas and Northern Texas. But with the reappearance of favorable weather, the Harris finch returns. As the days lengthen in February and March, he adds his querulous song to the notes which characterize his winter retreat. His call note becomes louder and is given with more vigor than in winter; so that a flock of them in a hedge adds much to the liveliness of a spring morning in Kansas. He remains with us in abundance until early in May, and I have records of seeing a small flock as late as May 14th, and a single individual, a male, on May 27th.

As this bird is absent from us only for about five months in summer, and its summer range is entirely unknown, it becomes an object of additional interest to the student of bird life. Its nesting habits are entirely unknown, and no well-authenticated specimen of its eggs are to be found in any museum. It has been supposed by most writers on ornithology that it breeds in the far north—even within the Arctic circle; but the leisurely manner of its migration and its short period of absence, seem to render the supposition improbable. It is much more likely that it breeds in a limited range not far from the northern boundary of the United States, or possibly within our boundaries in the foothills of the Rocky Mountains. On the whole, it seems strange that a bird so numerous, so large in size, and of such noisy song, should have been so long overlooked in its summer home.

The food of the Harris sparrow, like that of all our Fringillidae, consists largely of grass and weed seeds. In the nesting period it is undoubtedly insectivorous.

Repairing on the Farm.

The farmer who has paid little attention to making repairs of machinery, implements, and tools on the farm would be astonished did he keep an account of what such things cost him in a year. Not only should the actual money paid out for the repairs be alone considered, but the terrible loss of time going to town and back and waiting for repairs to be made. The following graduating essay, "Repairing on the Farm," by O. O. Enestvordt, of the Minnesota School of Agriculture, is full of practical information and suggestions:—

"That the farmer must be something of a 'jack-at-all-trades' is generally admitted. The fact that the farmer must be a jack-at-all-trades does not, however, imply that he should also be 'master of none.' He should be able to plan his buildings and to master all of the difficulties and emergencies which arise in his own work or in supervising and directing his workman.

"A farm, like a plant or an animal, if left to take care of itself, tends to degenerate into a 'scrub.' The farm requires buildings, machinery, fences, and gates, which, like all other earthly things, suffer from the wear and tear of time or use, and have to be repaired, remodeled or replaced. The dilapidated and unattractive appearance of many farms is due mainly to a neglect of the important work of repair. As a rule the farmer who owns such a farm does not regard it as the brightest spot on earth, and his children will take the earliest opportunity of leaving it.

"A representative of this class of farmers may be seen on the road with an outfit consisting of a span of poor, dispirited horses, harness held together by sundry pieces of binding twine and wire, and a wagon with tires so loose that the proprietor, seated on a board or scantling thrown across the top of the box, has to hold a stone in his hand to pound the felloes to prevent the tires from falling off. The cleats under his wagon-box are held up by ropes tied over the sideboards, and half a dozen cull boards are thrown in the bottom to cover up the holes. No one would mistake such a man for a progressive, contented, and well-to-do farmer. 'By their works ye shall know them.' Farm repairing is one of the most useful arts such a farmer could learn.

"The wood-working or carpenter's tools, are the first in importance in farm repairing, since most of the farm buildings and machinery are constructed of wood. They should comprise one claw-hammer, one 26-inch blade cross-cut saw, about nine teeth per inch, one carpenter's square, one hand ax, one jack plane, one smoothing plane, two or three chisels of different sizes, one bit brace, and half a dozen auger bits, from gimlet size to one inch, one or two saw files, and a well-mounted grindstone. If a rip-saw, a drawing knife, and a level can be added so much the better. The edge tools should be kept sharp by file and grindstone. This avoids needless waste of muscle and insures quality of work.

"A place should be prepared in which to use and keep these tools. It may be a corner in the barn, lean-to on some other building, or a separate shop fitted up for that purpose, with a carpenter's bench and shelves for the tools. The tools should always be brought back to their place in the shop, no matter where they are used, even if inconvenient at the time to do so. Sticking to this rule will save many unnecessary steps and the use of strong expressions.

"As for materials, let nails come first on the list—wire nails of all sizes. Wire nails will be found better and cheaper for ordinary use than cut nails, and they will take the place of rivets and wood screws when these are lacking. Make a long box with seven or eight compartments and label them, shingle nails, 6d, 8d, spikes, bolts, screws, wire staples. Fasten the box on the wall in the shop and keep each cell well supplied with what the label calls for. Hammer and nails are necessities in repair work. A few 2x4 scantlings and some common boards should be kept on hand.

"Some $\frac{3}{8}$, 7-16, and $\frac{1}{2}$ -inch round bar iron and a few feet of $\frac{1}{2}$ and $\frac{3}{4}$ -inch tool steel should also be kept on hand, if there are not enough rods, bolts and steel from old machinery. Such old machinery adds greatly to the materials in shop. It can all be utilized to good account except, possibly, a few castings. One should make it a practice to pick up all odd bolts and nuts found and throw them into the bolt box.

"The same shop may be fitted up with both carpenter's and blacksmith's tools, and should not be far from the machine shed, nor yet near enough to any building to cause any danger from fire.

"With a few simple tools like those mentioned, and a man who knows how to use them, there will be very few breakages or needs on the farm which cannot be successfully dealt with. I might cite many instances where tools have saved me time and money, but shall mention only one.

"If a farmer is reasonably handy with tools, and especially if he lives far away from town, it will pay him to own a set of blacksmith's tools. The first in the line is a forge. A portable one at \$10 or \$12 will answer very well for all farm work, and has the advantage over ordinary bellows of being proof against mice. The next is an anvil. A cast-iron one with vice and drilling attachment may be bought for \$4 or \$5, but it is hardly worth buying, as it will not last long or be sufficiently heavy for ordinary use. A wrought-iron anvil and vise will cost about \$15. Other tools needed are two hammers, one $1\frac{1}{2}$ pounds and one 2 or 2 $\frac{1}{2}$ pounds; one pair of plain tongs, one pair of bolt tongs, one hardie and stock and dies for cutting threads on from quarter to three-quarter-inch bolts. A drill costing \$2 or \$4 will also be a valuable addition to the set. The other tools, such as extra tongs, drills, punches, and chisels, may be made in the shop or bought, as one prefers.

"We had a very rainy spell before harvest in the

year 1887, and when it finally cleared up all the wheat was dead ripe. I had 130 acres to cut, with one binder, and had just fairly started when the casting which works the plunger bolt in the binder broke. The nearest town is nine miles away, and very likely the dealers did not have the extra casting on hand. I remembered my blacksmith tools. To drill two holes in each piece of the casting and to rivet on a wrought-iron patch took me about 40 minutes, and inside of an hour I was running again. The horses were rested and the casting proved to be just as good as new, having since served through six harvests.

"There is still another kind of repair work that needs mention, and that is the mending of harnesses and other leather goods. Mending harnesses with waxed ends is too slow, although it is the best way, if one has the time. It can be more quickly done with a wrang-rivet set, consisting of a hollow punch, a riveting punch and assorted lengths of rivets. Harnesses should be oiled at least once every year in order to wear well and be comfortable to the horse.

"The farmer should protect his buildings and machinery by keeping them well coated with paint. This will add greatly to both their durability and appearance."

Farm or City Life—Which?

President Stickney, of the Chicago and Northwestern Railway, in an address at Des Moines recently, discussed urban and rural life, and concluded the farmer could make his the most useful, the most independent, the most enjoyable life.

He discussed the subject of farming, and maintained that the great fault of western agriculture had been that the farmers endeavor to handle too much land; that they would be a great deal better off if they would sell half their land, pay off the mortgages, if any exist, or use the price of the land as additional capital, and to do better farming on smaller areas. He illustrated his propositions by the history of France, a country of small farms, which seems to be panic proof, even under invasion. He calls attention to the fact that the twenty-acre tilled farms of New England produce twenty dollars per acre against \$9 per acre on the 87-acre farms of Iowa, and that if Iowa farms employed the same amount of labor and skill on their richer acres there would be a great deal more profit in the farming business. He then takes up the objections, "What is the use of producing more food products; the world has enough to eat, and if more is produced, will not eat it?" He answers this, that the present apparent surplus is the result of a curtailed consumption rather than over-production; that those people who are living on short rations are for that very reason poor customers of the farmer, and that if by some miracle a thousand dollars could be put into the pockets of the surplus army of men and women in one night, before sunset the next day the warehouse of today would be empty.

He then goes on to show that increased consumption will increase urban occupation, and in increasing urban occupation will increase the demand for farm products. He then takes up the objections that are made to country life, its isolation, its lack of city schools and churches, and quotes from Gen. Francis A. Walker, President of the Massachusetts Institute of Technology:—

"No other place is so favorable for the education of the young as the small-sized farm. Here the child has a greater variety of object teaching than can possibly occur in any other common form of home life. There is so much to see that instructs; crops grow, animals must be reared, so many natural laws and natural phenomena are related to the work and the business; the seasons have more significance than that of mere heat and cold, and the weather means more than merely pleasant skies or gloomy days. In no other vocation can the child be so trained to habits of industry without detriment to his health or intelligence; no other is so well adapted to the sound education of intelligent and independent citizenship of the actually working population. The very large proportion of the men in this country, who have become eminent in the various walks of life, who have originated on farms and received their early training there, is the natural result of the influence of this vocation on education and intellectual development."

Upon which Mr. Stickney comments: "To the dogs, then, with the sentimental nonsense that the cramming processes of the city schools and the advantages of city churches, which you seldom enter, are all that makes life worth living, and that to remove to the country is to rob your children of these advantages. Let laboring men examine the pedigree of the successful business man, the distinguished lawyer, the leading physician, the most eloquent clergyman, and almost without exception they are country born, reared, and educated."

Good farming brings into action a far higher and nobler impelling force than is engendered by the sordid love of money getting. The first consideration in life is a home. This implies a family, which is the foundation of social stability, moral progress, and sound government. The sanctity of family ties give vigor to our ancestors, strength of character to their sons, and prosperity to our people. No calling in which men engage so fully conserves domestic life as that of agriculture. History sustains the assertion that the noblest spirits of earth were nurtured in the sacred precincts of happy homes. He who becomes a good farmer enjoys a grander life, a higher citizenship, than he who makes farming merely a financial success. The grandest crop on our American farms is our boys and girls—God bless them!—*Farm and Home.*

FARM NOTES FROM VARIOUS SOURCES.

Have a place for every tool. Mark over each hook in the harness cupboard, in good plain letters, which harness is to be hung on it. Mark off side and near side; by so doing even the new hired man will know where to find or put the harness without asking, and in the same manner mark every hook and peg in the toolroom. But do not stop here by knowing where things belong. Know things are where they belong, sensibly advises a writer in the *Practical Farmer*.

The meetings of the various agricultural and horticultural associations to be held during the winter should be largely attended by progressive farmers. It is a mistake to suppose that these meetings interest only the officers and members of the association. They are held in the interest of farmers at large, and for the promotion of agriculture, and the conclusions which they reach on any subject can have little effect until they are understood and endorsed by the farmers themselves. For this reason, farmers should take a very active interest in all such meetings, and attend whenever possible.—*Live-Stock Indicator.*

As with all other work, it would pay to do a little thinking and planning over your door-yard. Carefully map it out and carefully plant. A well-seeded lawn, with shrubs, roses, evergreen and shade trees, can be produced at a comparatively small cost, and will not require a great amount of work to keep in good shape. Plant some desirable shade trees around the house and lawn and add to the attractiveness of home surroundings. The lanes would also be all the better for a row of trees on each side. Every tree thus put out adds to the value of the estate. The trees may be just as well nut-bearing ones, so that they in time will become a source of some revenue.

In the question of road reform the matter of expense is frequently brought up as an obstacle in the way of certain improvements, but it should be continually reiterated that the heaviest tax of all which the farmers have to pay is the indirect tax occasioned by poor roads. The dollar or two frequently paid out for repairs, or the slow and unnoticeable depression of horses and vehicles, aggregate in the long run a very immense tax burden upon the community for poor roads. Here is double taxation with a vengeance, and unjust taxation at that, because the man who has paid ample taxes on his farm and buildings has to submit to another tax caused by the poor roads which his direct assessment has not prevented.—*Our Grange Homes.*

When one gives the subject thought, it appears strange that so few readers have artificial ponds when so many have suitable places to build the ponds at small expense. Recently during a visit to the country we saw where a never-failing spring had been utilized in this way, and the miniature lake was both useful and ornamental. The surplus water ran through a trough, erected for the stock, and with a great deal less attention than is required by a windmill, the trough was kept perfectly clean, always full and the water fresh. Although the grass had been pretty short during the summer, the horses looked as if they had been living on luxuriant clover. The pond is well stocked with game fish, and each of the farmer's rising sons would about as leave dispend with the barn as to do away with the pond.—*Colman's Rural World.*

Maxims by a Wise Farmer.

Success worth having is success hard won.

The irrigated farm is the farm of the future.

The power to kick is in the heel, not in the head.

It doesn't take a strong man to break his own pledges.

The fruits of a successful life grow on the tree of economy.

The lazy man wishes he had worked harder when harvest time comes.

A "stiff upper lip" seldom belongs to a man who has a limber tongue.

Early rising in the morning makes early retiring in the evening pleasant.

The "sweet by and by" is not likely to come to those who are continually sour now.

A tail with the dog off is usually worth a good deal more than a dog with a tail on.

The breeding of your children is of more importance than the breed of your hogs.

If some people kept their characters as clean as they do their hands, this world would be better off.

To hear some men talk you would think that the surest way to get rich is to curse those that are rich.

The farmer may have to let his cattle starve for want of grain, but the whiskey mill will keep going.

Those who learn the lesson of practical economy during these depressing times will find in it ample compensation for all present loss.

That man is not capable of caring for his own soul who is too thoughtless to care for his horses.—*Marion Rambo, in American Agriculturist.*

Short Lecture Course for Farmers.

Beginning on the first Tuesday of February each winter, a two-weeks course of lectures is given on agriculture and related arts and sciences. This is provided for these farmers and others who cannot take up the fuller work of the regular College classes. Members of the Faculty are assisted in delivering these lectures by prominent farmers, stock raisers, and fruit growers of the State; and full discussions of the topics presented bring out the varied experiences of those attending. This course, during the winter of 1893, was attended by about 40 farmers.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

ENTERTAINMENTS.

The Alpha Beta Exhibition.

At eight o'clock last evening the Alpha Beta Orchestra, in an opening selection, greeted a crowded chapel who had gathered to witness the Thirteenth Annual Exhibition of the Society. The audience was not only large, but appreciative as well, listening with interest throughout. President Fairchild invoked a blessing from Him who guides our growth.

In behalf of the Society, President Phipps welcomed the guests, and briefly reviewed the work and object of society annuals. He said: "We come before you with some of our best and strongest Society work. It represents the growth not only of our own Society, but also of the College of which it is a part. A noticeable feature on our program is the appearance of new names. This may at first give pangs of sorrow when we remember that those of a year ago are no longer with us; but it is a pleasure to know that it represents the forward march of the School and the Society. We invite your judgment upon the work presented, be it censure or commendation. Our object is to live and grow."

The President's address was followed by a mixed octette, "Away to the Woods," sung by Messrs. Clothier, Coffey, Smith, and Spaulding, and Misses Elva and Inez Palmer and Josephine and Adelaide Wilder.

The address of the evening upon "The Unseen," was delivered by G. W. Fryhofer, who forcibly impressed the audience with the fact that "for material things eyes have we, but there's little that we see." The Society is to be complimented upon their choice of standard bearer, for Mr. Fryhofer, by his thought and delivery, held the attention of the audience to the end. In substance he said:

"He that is stricken blind, cannot forget
The previous treasure of his eyesight lost."

"The blind man wanders lonely through a world of darkness, feels his way, and traces his path with a stick, inanimate and uncertain. If seeing is knowing, there's little he knows. How much of the world do we discern? Unseen is the microscopic world. On this globe of ours we have scarcely punctured the crust. Behold the genius, the king of men; his world lives after him. The world cannot know the self-discipline of youth unseen. The artist's spirit ruling-pen traced every line of character on his manly face. "Genius is the faculty for hard work," and "there is no royal road to highness." The mighty orator by practice has learned to make every muscle and modulation of his voice respond to a clear-thinking brain. He has labored in secret, and is rewarded openly. Hidden are the charms of music. To him alone who forgets sight will music yield enchanting notes, or sooth the moods of discontent. Aristotle, the father of zoölogy, was a master of his knowledge, and his specimens were but isolated collections compared to the zoölogy and museums of today. The unseen chain of graduation has been traced from the protoplasmic cell to man, the paragon of animals. The world's literature seems a mass of germs and dry bones. Unseen are the interwoven cords of harmony until the poet speaks to the grand epic or more flexible drama. In the land of spirits the materialist is confused and disgusted. The name of science cannot reckon in the spiritual world. The Christian says we live by faith, and not by sight. Perfect harmony is yet unseen. He that planned the cell, and man of many cells, that laid the foundations of the earth and built the superstructure, adorned and beautiful, that infinite intellect of which man's is but an atom, that intellect that started a million spheres revolving in space yet saw that none should collide, the Creator of man in his manifold nature, the Father of all—He is the Great Unseen."

A new feature, and a unique one on annual programs, was a paper read by J. B. S. Norton, the subject of which was "The Triumph of Mind." One could not but notice the thoroughness of preparation, the careful construction, and the clear thinking in this production. It was somewhat as follows: "Before the creation of man nature reigned supreme. But by means of the power given him in mind he has risen far above his surroundings, little thinking in his first rude condition how high would be his future destiny. But by unseen influences he was guided on, ever progressing in power, and though in the past restrained by monarchy and superstition, and by the present power of wealth, the trend of existence has always been toward a reign of intellect, great minds have always been the ruling power behind the welfare of

this world, but today they are taking the throne openly. The thirst for knowledge grows stronger every day. The future holds in store a grand union of man not by the force of any one power, but by all working together. But we dare not stop anywhere thinking we have reached the goal; there is no end to the progress of man. Civilization can never exist in idleness, and the hope of a bright future can only become reality by the effort of every soul not to be content, but to strive always for something better."

In the discussion was brought out the fact that the Alpha Betas are alive to current events, that they are keeping up with the times. The subject was "China or Japan—Which?" It was presented by two able members of the Third-year Class, Gertrude Havens and Grace Secrest. Their work is the more to be lauded since it is their first appearance in public with original work. To facilitate and illustrate the discussion a chart showing China and Japan, and Corea, the bone of contention between the two, was produced upon the stage by two gentlemen, one in the guise of a Chinaman, the other in that of a Japanese. Miss Havens defended the claims of China in this manner: "China, though we have looked upon her as not deserving our respect, still, with her immense advantages and history, should receive our consideration. Japan was the aggressor in the present war; she had taken measures to bring on the war; she is fighting on foreign territory. The reason she went to war at this time was shown to be her desire to establish a reputation among nations, danger of civil war at home, and a desire to gain territory. The argument that she is the advocate of civilization and should therefore receive our support, is disproved by the fact that polygamy and idolatry are practiced even by the royal families. The result of the war shows her greed for conquest and territory. Mr. Heard says: 'If Corea falls into the hands of Japan, God help her.'"

Miss Secrest energetically championed Japan thus: "Every friend of progress and enlightenment is on Japan's side. Before she had made her first attempts to walk, China was a mature nation. Japan progressed from the beginning. She has established in her empire schools and colleges, railroads, agriculture, and American ideas of government. Her geographical position makes her claim to Corea as good as China's; the one being separated from Corea by a narrow strait, the other by a formidable mountain chain. Japan will soon enshrine upon the hearts of her people the image of Christ. Since it is an unchangeable law that the superior race shall supercede the inferior, why not encourage Japan in her efforts to spread her civilization and to tear down the hated Chinese wall that the universal brotherhood of man may be ushered in, and over all prevail?"

C. C. Rambo next entertained the audience with an excellent cornet solo, "Nero," air and variations.

The Society paper, the Gleaner, with the motto, "Thousands for building, but not one cent for decoration," was presented by the editor, Elva Palmer. The editorial work presented the objects and aims of the Gleaner upon this occasion. In the contributions was shown the variety of work carried on in Society. Among the articles presented were: "A Lesson From the Stars," "The Football Enthusiast," "The End of Autumn," "Room for Two," "Thanksgiving in 1900." The editor, a hard worker, a clear and forcible reader, entered upon her work with a determination to succeed, and this spirit left its impress upon the productions, adding much to the value of the paper.

The Gleaner was followed by a piano duet, "Aurora Schottische," rendered by Marian Gilkerson and T. L. Jones.

The oration upon "American Architecture," delivered by M. A. Limbocker, showed careful study of the architecture at the World's Fair, where amid ancient forms the writer saw the germs of the American architecture, which is yet to be. The possibility of its growth and directions it would take were presented in a manner that met with universal approval. The youthful orator spoke as follows: "What will be the shape of the roof which shall cover your heads in the future and the generations to follow in this most progressive nation of all? The grand architectural display of the Columbian City was but the copying after ancient styles of architecture. But still the White City was as truly an American city as was Athens a product of the Greeks. It and other large cities have accomplished the first great step. In the buildings constructed upon metal rib-work, with walls of tilings, skylights, and numerous modern contrivances, we see the material for the American style of the future. Plate glass will soon be used to side up the steel-frame work, and then will man receive the glorious sunshine freely; although you say this may not be practical in our present large cities, the time will soon arrive when a city clouded with smoke will be a thing of the past. Americans will never live farther from "Mother Earth" than at the present time. Avenues will be roofed over, and in fact whole cities will be covered with glass. The modern city will not represent so many isolated homes, but cooperative colonies—bee-hives, as it were—of thousands of happy, peaceful neighbors. The ideal American architecture must come into existence slowly, and, like other human achievements, grow out of the past. Its purpose is practical, its material durable, its appearance beautiful."

For the purpose of entertainment the Society digressed from the regular line of literary work and gave a burlesque, "Looking Backward," the acting characters being eight young ladies who performed the steps of a lanciers, apparently going through all the motions backward. The ladies were heartily encored, and responded with another step much to the gratification of the guests.

The closing number of the program was a ladies' double trio, rendering "Rest Thee on this Mossy Pillow," after which President Phipps with a kind good night dismissed the audience, who departed carrying with them a feeling that the Alpha Beta Society had beyond doubt demonstrated that they are doing a

work, the results of which will be fully manifested only as its members take upon themselves life's duties. F. J. S.

Post-Graduate Party.

Probably the most enjoyable event of the season, to those who were so fortunate as to be present, occurred on Thursday evening of this week when the Post-graduate girls entertained at Mrs. Foster's, corner Ninth and Moro Streets.

To relate all the pleasant features of the evening would require a special edition of the INDUSTRIALIST, so we will mention only some of the more novel.

The assembly's knowledge of physiology was tested by a list of questions, a copy of which was given to each person. The answer to each question was to be found in some part of the human body. For example: Question, "A flower;" answer, "Iris." Question, "A tree;" answer, "Palm." There was some discussion as to whether the answer to the question, "What some people have" should be "cheek" or "gall," but the former proved to be correct.

The guests were given an opportunity to display their knowledge of books by a collection of subjects, each having a number, placed on two tables, each object representing the title of some book. Each person was given a slip of paper having numbers on it to correspond with the numbers on the objects, and opposite these they wrote the names of the books as they guessed them. Some of the representations were very ingenious indeed. A toothpick stuck in a lamp wick and placed on a pile of newspapers was "Pickwick Papers," a rose blossom "Rose in Bloom," a photograph of Mrs. Kedzie "Our Mutual Friend," and others equally apt.

Tissue paper butterflies were next passed around, the ladies being supplied from one plate and the gentlemen from another. The butterflies were of various colors and markings, but for each one on the gentlemen's plate there was one on the ladies' plate to exactly correspond. When this collection of butterflies had been arranged satisfactorily all were invited to the dining room for refreshments. If one part of the evening could be said to be more charming than the rest, more thoroughly enjoyed by everyone, and more creditable to those who planned it, this would probably receive the verdict. Everything was served in the most dainty manner possible, and the faultless appointments of the tables, the dainty waitresses, and the charming hostesses combined to make the occasion most delightful. The menu was as follows:—

Bouillon.
Bread sticks.

Chicken Sandwiches. Butter Sandwiches, a la Butterfly.
Salad. Olives. Pickles.

Lemon Jelly, with Whipped Cream.
Angel Food.

Coffee. Nuts.
Ambiguous Proverbs.

A few games were indulged in, and then the guests took their departure, feeling that if they have one thing which they may be proud of above all others, it is our class of "P. G." girls.

The entertainers—Misses Laura Day, Ruth Stokes, Stella Kimball, Belle Frisbie, Edith McDowell, Rena Helder, Nora Newell, Julia Pearce, Grace Clark, Lorena Clemons, Clara Castle, Jeannetta Zimmerman.

The entertained—Mrs. Kedzie, Mrs. Winchip, Messrs. Sears, Otis, Brous, Marlatt, Payne, T. E. Lyon, D. C. McDowell, J. H. Criswell, Brooks, Peck, Adams, McCullough, Joss, I. A. Robertson, Norris, Barnett, Morse.

The waiters were Stella Kimball, Clara Newell, Grace and Tacy Stokes.

GENERAL LOCAL NOTES.

The Farm has bought a fine Poland China boar from Mr. M. E. Moore, the well-known breeder of Cameron, Mo.

Elva and Inez Palmer are enjoying a brief visit from their father, who attended the exhibition last evening, visiting the institution for the first time in the twenty-four years he has lived in Kansas.

A runaway horse on Poyntz Avenue Saturday afternoon struck and tipped Prof. Georgeson's carriage, throwing Mrs. Georgeson out. Although unconscious when picked up, her injuries were found to consist of only bruises and scratches.

The Second-years have indulged themselves in the luxury of beautiful class pins, combining the class colors—silver and pale blue—in a silver pin of five-pointed star design, with the figure '97 engraved in the center, mounted on a five-loop rosette of ribbon.

The State Board of Agriculture is planning to set apart one evening of its annual meeting (Thursday, January 10) largely for the benefit of the ladies. Mrs. Nellie S. Kedzie, of the State Agricultural College, is to give one of her interesting talks upon "Domestic Science." Miss Gertrude Coburn [91], a Kansas girl and a graduate of the Kansas Agricultural College, who has for four years had charge of the domestic science and household economy department of the noted Stout Manual Training School at Menomonee, Wis., will lecture on "Manual Training for Our Girls."—*Nationalist*.

For ten years the desk calendar issued by the Pope Manufacturing Company has held a unique place among business helpers. Each daily leaf during that time has taught its quiet lesson of the value of better roads and outdoor exercise, and especially the benefits of bicycling. The calendar for 1895, which is just

issued, is brighter than its predecessors in appearance, as clever artists have added dainty silhouette and sketch to the usual wise and witty contributions that have heretofore given this popular calendar its charm. It can be had for five 2-cent stamps from the Pope Manufacturing Company, Hartford, Conn., or from any Columbia bicycle agency.

Prof. White leaves this afternoon for Emporia, where he is to serve as judge at the State Normal oration contest this evening.

Messrs. I. W. Fryhofer and J. Wiesendanger, of Randolph, were guests at the Alpha Beta exhibition last evening; and they find much of interest in the various departments today.

Rent as one of the methods of distributing wealth was discussed by Prof. Will in his lecture Friday afternoon. Rent is the joint product of nature and society. Nature has given to some parts of the earth more inherent value than to others, but before man took possession, even the best part of the earth had no exchange value. The speaker divided rent into four classes: economic, speculative, competitive, and monopoly rent. Economic rent is the difference which exists between the most desirable and the least desirable land which social needs compel us to use. Speculative rent is the increase above economic rent which is caused by speculators holding desirable land out of use and causing people to use land which is much less desirable. Competitive rent is that part of wealth which land-owners gain by not engaging in competition. While competing groups lose, non-competing groups gain. Monopoly rent is, as yet, largely theoretical. If one man owned an island he could charge what he pleased for the use of it so long as he left enough to keep the tenants alive. The collection of rent by individuals is justified by Political Economists on the grounds: 1st, it does not raise prices; 2d, that the man who used the most productive spot did not make it so, thus its extra value does not belong to him. Therefore, if the rent does not belong to the man who uses the land, the prices are not raised by its collection by private individuals, such collection is not wrong. It is true that economic rent does not raise prices and also that it does not belong to the person who uses the land; but as nature and society made the land, what is the land-owner's claim? But the other three kinds of rent do raise prices, and the argument would not hold for them even if it were valid concerning economic rent. In England, the people are proposing to turn the rent into the treasury of society by taxing the land-owners. The tax on land cannot be shifted. The questions of rent and land are important everywhere. If England leads in this matter, what will other nations do?

GRADUATES AND FORMER STUDENTS.

P. S. Creager, '91, has been promoted to night editor on the Topeka Capital.

P. C. Milner, '91, in the Rock Island office at Blue Island, a Chicago suburb, visited College Monday in company of Will Spilman, Second-year in 1889-90.

Eva Staley, Second-year in 1893-4, visits at the College for a few days on her return from Texas, her home. She leaves next week for Oneonta, New York, to spend the winter, at least, with her aunt.

Kansas Academy of Science.

The next annual meeting of the Kansas Academy of Science promises to be a most interesting and valuable one. The sessions will be held at the College on December 27th, 28th, and 29th, and will be of more than ordinary interest from the fact that the Academy will dedicate the new Library and Agricultural Science Hall.

The outline program of the meeting is as follows:

THURSDAY, DECEMBER 27.

3 P. M.—General business meeting.

8 P. M.—Retiring President's Address.

FRIDAY, DECEMBER 28.

9 A. M.—Presentation and discussion of papers.

2 P. M.—Presentation and discussion of papers.

6 P. M.—Dedication of new Library and Agricultural Hall in banquet to members and invited guests.

SATURDAY, DECEMBER 29.

9 A. M.—Presentation and discussion of papers.

2 P. M.—Presentation and discussion of papers.

Entertainment will be provided for visiting members.

The Secretary writes that he already has a large number of topics for discussion, and it is believed the meeting will be largely attended by the members.

Expenses.

Tuition is free, and no general fee for incidental or contingent expenses is charged.

Lessons in instrumental music—two a week—are from \$10 to \$14 a term, according to its length; one a week, \$6 to \$8.40. In classes of two or more, the cost is less. One-half is to be paid to the instructor in charge with the first lesson; the other half at the middle of the term.

The cost of text-books at the book stores is, for the first year, about \$2.75 a term; for the second year, \$3 a term; for the third year, \$6.50 a term; and for the fourth year, \$2.75 a term. Second-hand books may be obtained at lower prices.

The expenses for apparatus and tools to each student during the course are as follows: Drawing, \$4.05; microscope for botany and entomology, \$1.50; case, pins, etc. for entomology, \$2.25; herbarium, \$1.50. The total expense for these articles during the four years is less than \$10.

Board and washing are not furnished by the College. Board, with furnished rooms, can be procured in private families at from \$2.50 to \$3.50 per week, or table board in student clubs from \$1.50 to \$2.25 per week. Some students board themselves at even less cost; and rooms for the purpose can be obtained at a rent of from \$1 to \$3.50 a month. Washing costs from 50c. to \$1 a dozen pieces.

Ordinary expenditures, aside from clothing and traveling expenses, range from \$100 to \$200 a year.

COLLEGE ORGANIZATIONS.

December 7th.

The Alpha Beta Society opened by all joining in singing "Just As I Am" as an opening hymn, after which Gertrude Havens led the Society in prayer. Mabel Anderson was then elected to membership and initiated. Maude Mannen gave a declamation in which she showed the stupid side of life. A well-written essay on "Industry" was read by Mr. Rambo. The pleasant, the painful, the humorous, and the instructive sides of our outdoor duties were presented in a symposium, "Surveying," by Inez Palmer; "At the Barn," by J. M. Westgate; "In the Hort. Department," by W. H. Morgan. After this, E. P. Smith was allowed to present "In the 'Ag. Room,'" much to the instruction and entertainment of his hearers. Etta Ridenour and Hugo Halstead, respectively on the affirmative and negative, discussed the question "Was Napoleon a greater statesman than a general?" The Gleaner was presented by J. B. S. Norton for the second division. Then the Alpha Beta male quartette favored the Society with a humorous song. Recess followed, and the ten minutes was spent in the usual pleasant way by members and visitors. After the Society was called to order, R. W. Clothier impersonated some chicken-yard musicians on the violin. A. C. Peck then spent a few minutes quizzing the Society on parliamentary law, the members discussing the questions. During the afternoon the Society listened with the greatest interest to the words of two Alpha Betas whose hearts are ever with their Society though they cannot be in our midst as of yore. C. H. Thompson's letter was read by the Secretary and C. C. Smith spoke in person, both receiving by the hearty applause they well deserved. After the usual business the Society adjourned, the last though one of the best sessions this term. J. B. S. N.

December 7th.

When President Thompson called the Ionians to order immediately after chapel nearly every member was in her place. Gertie Rhodes sang, and Tacey Stokes led in prayer. After roll-call the program was postponed for one week, the business of the day taken up, and rushed through as quickly as possible till some one remembered that the football game was not till half past three, and we would have plenty of time for the program. Rena Helder favored us with a vocal solo. Then to the surprise and disgust of some and to the joy of those who wanted to attend the game, it was found that a suspension of the rules could not be reconsidered, consequently we could not have the program. After this the Society discussed plans for the further furnishing of the rooms, and ways of obtaining money for the purpose. Report of critic and reading the minutes followed by roll call with quotations. Adjournment at a quarter past three. E. E. N.

December 8th.

President Barnett being absent, the Society was presided over by Vice-President Johnson. Prayer by C. E. Pincomb. The opening declamation by Wm. Hargrave showed thorough work, and was well appreciated. E. Langhart read a laughable essay on his first and only experience at batching. The Society next listened to two well-rendered vocal solos by B. W. Conrad. The question for debate was, "Resolved, that Government should require educational qualifications of the voter." J. D. Trumbull and G. W. Jackson by a logical course of reasoning championed the affirmative, while G. G. Boardman and L. G. Hepworth gained the question by as ably refuting their argument. A humorous select reading on "Lodge Initiation," by A. L. Peter, afforded much amusement for the Society. One of the best Record-ers of the season was presented by editor John Poole. The excellent editorial showed that the editor had not come amiss of his calling, while the contents of the paper displayed good literary work among the members. L. W. Pursel gave a discussion on the life and customs of the Western Prospector. A select reading by John Holland closed the program. Unusual spirit was manifested in new business, and in consequence of the strict punctuality of the incandescents, part of it had to be transacted by the aid of pocket emergency lights. Adjournment. E. C. J.

December 8th.

After the usual preliminary exercises of the Society, the Websters settled down to listen to a long and warmly contested debate which showed considerable study on the part of the contestants. S. H. Creager and T. VanOrsdal vs. B. F. S. Royer and C. E. Willey. In arguing the question, "Resolved, that emulation should be encouraged in our education," the affirmative defined emulation in a broad sense, considered the question of rewards, both in money prizes or medals, and the simple consciousness of having done that which is laudable. They showed that emulation is the true cause of all friendly strife in our civilization of disinterested reward. The negative set forth clearly the dangers arising from holding forth a concrete object on which to center strife, rather holding that the higher aims in strife simply for the increased ability one gets from it. The danger of concentrating energy upon one particular branch of study to the exclusion of others merely for the reward was enlarged upon, and many other points touched on both sides. The negative received the decision. Music was furnished by B. W. Conrad. Essays by A. B. Newell and Geo. McDowell, and a declamation by R. E. Bloomer, were interesting numbers of the program. C. B. Selby entertained with a graphic description of hunting in the Indian Territory. The Reporter, editor A. G. Bittman, appeared in a football guise with motto of like nature. Articles on College reforms and College life were predominant. General discussion, extemporaneous speaking, together with business and a much appreciated talk from an old member of the Society, J. E. Payne, filled the time until adjournment. A. G. B.

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D. H. OTIS, B. Sc., Agriculture.
F. C. SEARS, B. Sc., Horticulture.
J. B. S. NORTON, Botany.
F. W. DUNN, B. Sc., Irrigation.

IRRIGATION—A PROBLEM IN MECHANICAL ENGINEERING.

BY PROF. O. P. HOOD.

SO large and varied a subject as that of irrigation must needs take many kinds of workers to effect its presentation and solution. In any such question it is rare to find a man capable of being equally valuable at the various stages of the problem. In enlisting popular enthusiasm, presenting glittering generalities, and firing the ardor of a whole community, it is doubtful whether cold facts are as efficient as the warm and glowing pictures of the imagination. If these pictures have been painted on the well-woven canvas of obtainable facts, they may last.

The irrigation problem, it seems, has just passed through this very necessary preliminary stage. In a certain convention held not long ago over ninety per cent of the subjects presented seemed to belong to this "boom" order. It seems to be pretty well believed now, however, that irrigation will do nearly all claimed for it, providing the water can be had. The former startled feeling that one had in viewing the "the-look-on-this-and-then-on-that" pictures labeled "with irrigation" and "without irrigation" is giving place to a general I-told-you-so feeling. It is not likely that in future conventions, it will seem as though the majority of speakers had been cautioned by that old doggerel concerning some one who wanted to go out to swim, but was cautioned not to go near the water.

The problem is getting nearer and nearer the two vital questions: first, is there water to be had? and second, how can we get it in the cheapest possible manner? It is evident that before all others this first must be answered. It has been answered partially in various ways, according to the locality, but yet there is a vast amount to be learned before a general answer can be given. The greatest number of answers seem to indicate a great quantity of water available from below.

If this subject were settled in never so satisfactory a way, if the depths were a veritable ocean, or if only a moderate supply was available, the next problem would not be one of horticulture and farming, or methods of applying water, or what will grow and what will not grow, but one of mechanical engineering; namely, how to best raise that water. The question of available water is one which must be settled in the field by civil engineers, geologists, and a good portable pumping plant. The problem of raising the water does not necessarily have to be solved in the field; in fact, this would be the poorest possible place for such experimenting, away from all the facilities of building, repairing, and changing which is implied in experimenting.

There is a decided opinion that the successful irrigation of the next few years is to be that of a small area supplied from pumps run by wind power. Most important problems connected with this system are as yet unanswered. The general opinion that wind power costs nothing is a fallacy. It used to be thought that water power cost nothing, but it is rare to find a manufacturing plant of any size depending solely on water power, cheap as it seems. It may be that on account of reliability gasoline engines may be the cheaper in the long run. During the summer months and September a wind-mill finds the wind insufficient to run it during about one-third of the time, and when running during the summer months gives but two-thirds of the power it will develop during the rest of the year. This weakness during the critical season presents many questions as yet unanswered.

Of all the various wind-mills it is as necessary to the State and the irrigation problem that they be experimented with and the worthless "spotted" as that the duplicate and worthless varieties of garden vegetables be discovered. This cannot be done satisfactorily in general practice. The conditions are too dissimilar in adjoining plants. This work should be done where instruments of precision can be designed and made, and careful tests of power and efficiency under similar conditions can be as carefully carried out as is done in the various mechanical engineering laboratories of the country in treating other mechanical problems. The irrigation agitation has brought no end of new pumping devices on the market, and no information as to the actual performance of either the new or the old forms is to be had which is good for any purpose of comparison. There have been exhaustive tests of large pumping plants, available to every engineer, but of the efficiency of small-power machines but very little is known. This is an im-

portant point in wind mill practice where the power is always small, averaging for a ten-foot mill while it is running about one-tenth horse power.

There are many questions as to the proper and most efficient diameter of pump cylinder for a given depth of well and size of mill. There is no way of answering this except by actual experiment; and to be of value the experiment must be more carefully carried out than is possible in the hands of farmers and wind-mill agents.

Perhaps enough has been said to make the point that one of the most important points in irrigation is at present a mechanical engineering problem, and that for a quicker solution than can be had from the general experience of the country the problem must be put into the hands of mechanical engineers rather than into the hands of politicians or farmers. If the experimenting is carried on in a cheap manner, the results will be cheap. The problem is difficult; for while instruments without number can be had for testing the largest engines, instruments for dealing with this wind-mill problem are yet to be designed. The experimenter should have the advantage of a machine shop and good artisans, and be free from cares both political and educational.

BROKEN BONES.

BY PROF. N. S. MAYO.

IT used to be supposed that if a horse, cow, or pig was unfortunate enough to break a leg the injury was fatal; that under no circumstances would the bones grow together again; hence no time was lost in destroying the animal and thus ending its misery. It is now known that under similar circumstances no reason exists why an animal's bones will not unite when broken just as readily as a person's bones.

As it is impossible to control and care for animals, and keep them quiet as human subjects, the treatment of broken bones is not attended with such good results. In many cases, however, with little treatment animals with broken legs can be rescued from an untimely grave. Sometimes it is difficult to detect a broken bone; in other cases it is too evident to need any directions. Some of the most important symptoms are the following: Severe lameness, or total inability to use the injured limb. Sometimes, when the bone is not displaced, if each piece of the broken bone is grasped and twisted slightly, a slight crackling sound known as *crepitus* can be felt, being caused by the broken ends grating on each other. If the bone is broken in more than two pieces, or if it protrudes through the flesh and skin, or if it is broken near the body where it is deeply covered with muscles, domestic treatment is in most cases not successful. If the bone is broken only once in two, and not deeply covered with muscles, the following treatment, which can be applied by any intelligent person, will often save an animal's life: First, get the bones in proper position. This often requires pulling when the broken ends have slipped by each other. This done, wrap the part smoothly with a flannel bandage, which should extend six or eight inches above and below the fracture. The flannel and plaster Paris bandages should be prepared previously. The flannel bandages should be made from strips about three inches wide, and five or six feet long, wound into neat, firm balls. Plaster Paris bandages are made of strips of cheese cloth of the same dimensions; but before rolling up it should be well covered with dry plaster Paris and thoroughly rubbed into the meshes of the cloth with a case knife, and then wound carefully into neat rolls. At least ten of these should be prepared for an ordinary case of fracture. Just before using, the plaster Paris bandages should be placed in a bucket of water and allowed to remain until bubbles cease to rise, when they are ready for use.

After the flannel bandage has been put on, the plaster Paris bandages should be taken from the bucket of water and wound firmly and smoothly on the outside until a jacket is formed one-half inch thick, at least. The plaster Paris bandages should be wound from below upward, and care taken that the flannel bandages extend both above and below the plaster Paris jacket so that the edges of the latter will not cut the flesh or skin. The animal should be kept quiet for half an hour, or until the plaster cast has thoroughly "set."

The plaster cast must be carefully watched to see that it does not chafe or "cord" the leg, or change its position, or cause the leg to swell. If it does

either, it must be removed and re-arranged, and another put on.

The flannel bandage is put on first to allow for slight swelling, which often follows, and prevent the stiff plaster cast from hurting the leg. Bandages should not be put on over a part that is discharging pus or matter, as they would only aggravate the case.

I have known several cases where farmers have followed these directions with excellent success.

THE KANSAS ACADEMY OF SCIENCE.

BY SECY. I. D. GRAHAM.

MANY years ago—more than some of us care to remember—there was organized a society for the study of natural science which has since grown to be the present Kansas Academy of Science. Beginning, as it did, in the earlier years of the material development of the State, when Kansas was thought to be a desert, scientifically, as well as agriculturally, its infancy was but feeble and its growth slow. But, fostered as it was by a few earnest enthusiasts, it has not only survived its earlier struggles, but has grown until it has become an immense power for good to the scientific world.

The Academy had its birth on September 1, 1868, in one of the class rooms of Lincoln College, Topeka, as the direct result of work done to this end by Prof. B. F. Mudge, formerly of this College, Chaplain J. D. Parker, who was at that time a Professor in Lincoln College, and Chancellor F. H. Snow of the State University.

At the meeting held October 1, 1871, the name of the Society was changed from The Kansas Natural History Society to The Kansas Academy of Science, which it now retains. At this meeting, also, the object of the Academy was announced to be "to increase and diffuse a knowledge of science, particularly in relation to the State of Kansas."

At the annual meeting held in the Presbyterian Church at Lawrence on September 8, 1873, was taken the most important action, perhaps, in the history of the Academy. This was the formal acceptance by the Academy of the provisions of an act passed by the preceding Legislature which made the Academy a coordinate department of the State Board of Agriculture and provided for the publication of its proceedings in the Annual Report of that Board.

The Academy has held annual and semi-annual meetings with varying success and in many places. Calling the State Capital its home, it yet "goes visiting," and the annual membership varies somewhat with the appreciation of scientific research in the city where the meeting is held. While its list of members has and does include the foremost men of science in the State, there are but few who participated in the first meeting who can be present at the twenty-seventh annual meeting, which will be held at the College next week.

During the quarter century of its existence wonderful progress has been made in scientific knowledge, and it is with a feeling of pride that the members of the Academy can claim that their part in the grand whole has been no inconspicuous one.

The Academy has for many years been much hampered in its efforts to accomplish the most good by a lack of means. Its more valuable papers should be published at once and distributed to those most interested, and not be compelled to lie hidden until the time for publishing a biennial report comes around. Authors of valuable papers which have cost heavily in effort for their preparation are now compelled to publish elsewhere or lose the credit which is their due, and thus involuntarily detract from the value of the proceedings. This is a matter of such real importance that it is hoped the Legislature will take it up and provide for the proper doing of a work which is second to none in the State.

The Maker of the "Land Grant Act" of 1862.

At the recent meeting of those engaged in agricultural education and experiment at Washington, appropriate recognition was made of the services of the venerable Senator Morrill, of Vermont, who was largely instrumental in drafting and securing the passage of the "Land Grant Act" of 1862, under which the agricultural and mechanical colleges were established and endowed, and also in securing the passage, in 1890, of the "Morrill Aid Fund," under which each of these institutions receive additional endowment—ultimately \$25,000 a year each.

President Buckham, of the University of Vermont, gave an interesting sketch of the life of the Senator. He was the son of a blacksmith, received no education in his youth but that to be obtained in a common school in the first part of the century. He early manifested a desire for knowledge, and when still a young boy, after a day's work in a store, would read long at night in his attic room. While never becoming what

is known as a "scholar," he acquired much information and a well-trained mind. On entering public life, especially on coming in contact at Washington with those who had received thorough training in colleges, he was painfully impressed with his deficiencies, and began to earnestly desire that provision should be made by which the advantages of liberal education might be offered to other poor boys. He was also impressed with the fact that the colleges of the time were principally for those preparing for the learned professions. He desired to have colleges in which should be secured "the liberal and practical education of the industrial classes."

Finance of Good Roads.

"While I do not claim to lay before you a solution of the question in its entirety, I believe the plan I have to suggest is of that feasible nature that it can be carried out to accomplish grand results in that direction. Conservative and reliable statisticians estimate the cost of bad roads in this country at more than \$250,000,000 per year. This vast sum somebody must lose. Probably it is divided quite equally among all the people in proportion to each individual's expenditures. For this reason it is no less a loss, and for this reason the necessity is all the greater for stopping the loss. Add to a scheme for saving the amount another for furnishing employment to the idle millions, and here is a project worth the advanced civilization of the age. It is not a question of increased taxation, but one of using to the best advantage the money annually contributed by the people for road purposes. It is within the bounds of reason to put the sum spent each year in the maintenance of the country roads at \$30,000,000. As a rule the \$30,000,000 goes each year to keep company with the \$220,000,000 devoured by mud.

"Undertaken at an early day, in twenty-five years every mile of road commonly used by the public and made a thoroughfare by law, save perhaps in the thinly settled portions of some of the far western States or in the more mountainous regions, could be built of stone or gravel, made durable and permanent, always in condition every day in the week upon which a good load of produce or merchandise could be hauled and without the payment of a dollar additional tax. Skillful financiering and intelligent investment of the taxes now paid will do this, and the cost, principal and interest, be liquidated inside of five years, putting the rate of interest at 3½ per cent. Employment will be furnished the surplus labor of the land, the money of the people kept in circulation, and unprecedented thrift and prosperity go hand in hand with the prosecution of the work, followed by perpetual benefits to every business interest. This plan embodying the borrowing of money on bonds issued by counties or their subdivisions, will meet with but slight opposition when the voter is convinced that the money will be judiciously and economically expended; that it does not mean increase of taxation, and will bring expected results. With the plan now in vogue no person can look ahead to the time when there shall be less taxes levied for road purposes than now. Continue to collect the amount annually levied, and use it as is now the custom in all the States, and in seventy-five years there will be no more to show for the taxes paid than there is to show for the taxes paid in the last seventy-five years. Nor do I see any reason why the State should not contribute something to each mile of road built within its limits. I would not, however, have either the Government or the State build the roads. This should be done by the counties or their subdivisions, permitting the intervention of the State so far as necessary to secure the State contribution.

"The time is rapidly approaching when the saving made by the good roads may be essential for stopping the dismal cry of "overproduction" and enable America to continue to furnish food and raiment to foreign countries. Robbing the millions of it levies on the people and conduct that vast sum into the pockets of the farmer, the wage earner, the producer, and the consumer, and the republic will add to its annual resources a wealth equal to one-half the mineral products of the land. With good roads traversing every school district and leading to the villages and towns, the serious question how to prevent the depopulation of the country and the congestion of the cities will be settled to the best advantage and welfare of every interest known to American genius and American enterprise."

The Farmers' Danger—An Object Lesson.

I know a man who began farm life with the avowed intent to subserve every factor to the getting of money. He began on a fairly productive farm, bought principally upon credit. He started the plow, kept large fields continually under cultivation, raised oats so long as a field would produce 20 bushels per acre, and then turned his attention to buckwheat until the fertility had become exhausted and the reduced one half in value. This man has made money and has impoverished a farm that will require half a lifetime to restore. His home during all these years has been cheerless and comfortless, as no time could be spared from farm work to beautify and embellish it, either in interior or surroundings. He never takes a holiday, is so absorbed in his work as to have no interests in farmers' meetings, caring less for their results. His influence is circumscribed by

his school district. What has this man done for posterity?

Another man, one of nature's noblemen, began life resolved to find some sunshine in its pathway. He, too, began at the bottom round of the ladder. His home was humble, but the radiance of two cheerful hearts shone out from its portals in a purpose to make themselves and others happy. As he toiled, fortune frowned upon his early efforts, nearly overwhelming him. Courage and industry kept him on his feet, as he possessed will power sufficient to rise above defeat, and went forward step by step with little means and no prospective help but his own family. He bought at its value a run-down farm with dilapidated buildings. "All stock liberally kept and fields thoroughly tilled and improved," was his business creed. He used all possible means to secure knowledge as to strains of blood best adapted to his needs in stock-raising, the most valuable labor-saving implements required, the most approved kinds of seeds and methods of culture. His stock has always been the best and his crops the largest in his neighborhood. His fields were laid off and rotated with system. His old buildings are replaced with elegant modern structures, convenient and comfortable. His children were educated to reverence the Hand which opened up such grand possibilities in the realm of scientific agriculture. This man's farm has doubled in value and his life has been rounded up with the solace and contentment born of usefulness. He exerts an influence as expansive and cheering as the sunbeam. Who can measure the power of his example?

The first farm was made to disgorge all the money there was in it and grew poorer every year, while the second was made more productive and increased in value steadily.—R. L. Beardslee, in *Farm and Home*.

Electric Lights Injurious to Trees.

In the larger cities, where shade trees are few and scattering, electric lights seem to have no visible effect upon their foliage. In the towns and villages, however, many of which have their electric light systems, the effect is very noticeable, the leaves appearing to have been subjected to the blighting breath of a harmattan. The question was recently discussed at a meeting of the eastern arboriculturists, the conclusion being that trees need darkness in order that they may sleep, and that being continually kept awake and actively they may have been worn out, and made prematurely old by the action of the light. That this is probably the correct solution of the mystery of the drooping leaves may be judged from the fact that similar trees in the same neighborhood of those affected (though not exposed to illumination) still retain their color and seem bright and strong.

Closer Farming and Less Land.

An editorial in the *Gazette* on the subject of smaller farms and better methods of culture attracted my attention, and the spirit moves me to take up my pen and "second the motion." So thoroughly am I convinced of the advantages that would result from a radical change in this particular, especially throughout the great Mississippi Valley, that I could almost wish it were practicable to limit the holding of any one man to eighty acres. The fact is that every man who has traveled much in other countries with his eyes open must know that the slipshod, wasteful, inefficient manner in which the great bulk of the farms in this country are scratched over—not cultivated—is a disgrace to our people, and proclaims out farmers as a class to be ignorant, wasteful, and most thoroughly unbusiness-like, and it is high time that there should be a general awakening upon the subject. What would be the thought of a manufacturer who maintained a \$50,000 plant to do the work that could just as well be done with a \$25,000 one? And that is just what nine-tenths of our farmers are doing to-day. Such a course would speedily bankrupt the most highly protected manufacturers in America, and it is making poor men and slaves of our farmers. Take the single item of corn as an example of what may be done on average good corn land with thorough preparation and tillage.

Every observant man knows that upon good even land it is practicable, under favorable circumstances, to raise 120 bushels of corn to the acre. This yield has been obtained again and again; and any man who has good corn land can do it in a favorable season, and do it economically, too, if he farms with brains as well as muscle. I feel sure that with the same amount of work bestowed upon ten acres that our farmers usually bestow upon twenty acres, our average yield per acre could be easily doubled. And the same is measurably true of most other crops. It does not lie in the cultivation of the crop, but the preparation of the soil and the method of planting and the care taken to secure a full stand with just enough and no more stalks in a hill are all-important. The labor expended and the intelligence with which this labor is directed are all-important. We have the soil and the climate, and we can learn the rest. Let "A Little Farm Well Tilled" be the watchword of our farmers in the future and we shall soon see our farm mortgages disappearing. We shall then have profitable room and occupation on the farms for all the intelligence and all the education and all the brains that our brightest boys may possess. Less land and more intelligence is what we need to make our farmers happy, prosperous, independent, and influential.—Correspondent *Breeder's Gazette*.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Several beautiful orchids have delighted visitors to the green house for several days past.

Invitations to the dedicatory exercises and banquet are issued this week to the number of 250.

The INDUSTRIALIST takes a "lay-off" next week that the student force may spend the short vacation at home.

Capt. Cavanaugh carries a cane as the result of violent contact with a surveyor's stake on the drill ground.

The Board of Regents will meet in special session next week, and will share in the dedication exercises Friday evening.

Mr. D. P. Norton of Council Grove writes in commendation of two Short-horn bulls recently sold by the College to go to Texas.

The small feed-pump used in the old engine room is being overhauled, and when put in repair will be used in the pit as an auxiliary pump.

T. P. VanOrsdol, Second-year, goes to Florida with the excursion party to leave in two weeks. He will spend several months in the land of flowers.

The steam pipes in the engine room have received their asbestos jackets, and are in condition to carry to the cylinders the steam entrusted to them without waste by radiation.

School and Fireside, of Hutchinson, publishes a two-page illustrated article on this College, with a new portrait of President Fairchild—the best that has ever appeared in print.

Miriam Swingle, Fourth-year, leaves New Years Day for Eustis, Florida, where she will visit for several weeks with her brother Walter, '90, located in Florida for the study of fungus diseases of plants.

The railway companies doing business in Manhattan have granted an extension to January 8th on holiday excursion tickets to Students—a concession very satisfactory to those who want to spend the whole vacation at home.

The "P. M." banquet, celebrating the emancipation of the Third-year Class from the afternoon industrial, was held down town last evening. A varied program, with toasts and a supper, furnished entertainment enjoyable to both guests and hosts.

The trouble and expense attending the shipment of the cylinders to Chicago has led Prof. Hood to make drawings for a machine for the manufacture of oxygen. The machine is similar to that generally used for the purpose, and which sells for \$100, while the cost of the one to be made in the shops will be less than one-fifth that sum.

The dedication of the new Library and Agricultural Science Hall under the auspices of the Kansas Academy of Science is an event of more than passing interest. The appropriateness of the occasion to the annual meeting of the Academy, in which College men have had prominence from its foundation, no one can question. The gathering of men of science from all parts of the State is itself of importance enough to make a banquet in their honor worthy of note; but there will be added invited guests from among old friends of the College, distinguished State officers, representatives of educational institutions, and friends of agricultural investigation and progress from various parts of the State. We regret that a conflict with the last day of the State Teachers' Association will prevent the presence of some of our best friends. The banquet will begin at six o'clock P. M. of Friday next, and be prolonged, as the toasts hold out, till all interests of the occasion are met. Responses are already promised from prominent members of the Academy and others sufficient to insure a satisfactory programme.

GRADUATES AND FORMER STUDENTS.

W. J. Yeoman, '93, visited College yesterday.

G. L. Melton, '93, came up from Winfield to spend a week with College friends.

E. C. Abbott, '93, is located at Alvin, Texas, presumably for the practice of law.

G. M. Munger, of Eureka, Second-year in 1892-3, visited College several times during the week.

H. W. Mattoon, Second-year in 1891-2, visited College Saturday in the interest of the United Typewriter and Supplies Company of Topeka.

Baby girls are reported recently at the homes of W. H. Olin, '88, and Winifred Cotton-Olin, Second-year in 1888-9, Osborne, and at the home of C. G.

Clarke, '88, and Mattie Cobb-Clarke, '88, at New Haven, Conn.

J. C. Christensen, '94, called this morning on his way home from Maple Hill, where he has a school.

Amos E. Wilson ['78], the well-known banker of McPherson, has been elected Cashier of the First National Bank of Leavenworth.—*Topeka Capital*.

Mrs. Carrie Hunter-Cobb, Second-year in 1887-8, visited College Monday in company of her brother Clayton, Fourth-year in 1893. Her husband, S. S. Cobb, '88, will be here next week to attend the Doran-Zeigler wedding.

Miss Lillie Harkins, Professor of Domestic Economy in the Agricultural College of South Dakota, expects to spend her vacation in post-graduate study here. Miss Harkins spent the winters of '91-2 and '92-3 with us, and will be gladly welcomed.

Notes from Orchards and Gardens.

The classes in horticulture and entomology put in the five days of last week making cuttings and grafting. Some very good work was done in both lines, though the casualties, consisting of cut fingers, thumbs, and clothes, seemed to be unusually numerous.

The pruning of the experimental vineyard has been finished, and those vines which need protection laid down and covered with earth. Of those sorts which have proved tender, both vines (there are two vines of each variety in the vine yard) were covered; of the hardy sorts, both vines were left uncovered, while of those varieties which have not been tried sufficiently to determine whether they are tender or not, one vine was covered and one left uncovered. On most vines, the growth during the past season was very satisfactory; much more so than that of the summer of '93. The wood obtained from pruning has been made up into cuttings and is being set into the benches in one of the propagating houses. The wood from the new varieties or from those making but little growth was made into single eye cuttings and set in shallow trays in order to obtain as many plants as possible.

Some rather interesting results have been obtained by planting seeds of different sizes. Seed of several varieties of cabbage and radishes was taken, and one hundred seeds of three different sizes, large, medium, and small, were selected from each variety and planted. To look at cabbage seed one would say that it was all about of a size, yet the weights of the lots, one hundred seeds in each, varied from 9 or 10 grains for the large seeds to 6 or 7 grains for the medium size and only 3½ to 4½ grains for the small seeds. There seemed to be little difference in the rapidity with which the different lots germinated, the first plants in all lots appearing on the same day, but when they were fairly up a decided difference was seen in the size of the plants. Those from the large seeds were fully twice as large as those from the small ones, and stocky and thrifty in proportion, those from the medium seeds being about half way between. As to the percentage of seeds which germinated, the medium-sized seeds led a little in all cases, the large seeds standing next and but little lower, and the small ones last and much below either of the others. The trial was necessarily stopped at this point, as the cabbages could not be grown to maturity, but it will be tried again next spring and the plants set in the open ground and matured to ascertain if this difference holds to the end.

The apple trees of the young orchard have been wrapped with old newspapers, though most of them are nearly large enough to be proof against rabbits. They made a fair growth the past summer, and one variety, Cooper's Early White, bore its first apples.

The strawberry beds are receiving a thorough irrigating to put them in shape for the winter. As it has been found that water does not work sideways in this soil to any great extent, the water is applied directly to the rows as well as between them. As soon as the water has soaked away sufficiently the mulching will be applied for the winter. This will consist of a light covering of good bright straw.

Radishes and lettuce growing in the propagating houses will soon be large enough for use. Later lots will be planted to keep up the supply.

A fungus disease has done considerable damage to the bushes of Siberian dogwood, *Cornus Siberica*, the past season. It has been present for a number of years, but has never done so much damage before. It appears as a dark brown spot on the side of the bushes, spreading quite rapidly and eventually killing the bush. Or it may appear higher up on a branch and nearly kill the branch. As these brown streaks and spots are quite plentiful, they detract considerably from the beauty of the bushes, which consists mainly of their bright red color in winter.

F. C. SEARS.

Notes, Entomological and Zoological.

All donations to the museum will be gratefully received and due credit given the donor.

New mouldings for pictures have been put up in the east office, much improving the appearance of the room.

A number of volumes newly and handsomely bound were returned to the Department this week from the hands of the binder.

The transactions of the American Entomological Society and the Canadian Entomologist have been

catalogued, adding much to the facilities for reference.

Work in the classification of the coleoptera collection goes on, and the list of Kansas coleoptera is being revised.

Numerous jars of clams and crawfishes, which were collected this fall for laboratory use, await the classes in zoölogy for the winter term.

The classes in entomology were looked after by Assistant Marlatt during Prof. Popenoe's absence at the State Horticultural meeting.

The two special students in entomology, C. D. Adams and W. H. Phipps, have made the study of the anatomy of the grasshopper this term, illustrating their work by a number of excellent drawings.

A new steam-cooker has been connected with one of the radiators in the laboratory, and the odors arising therefrom are caused by the boiling of a prairie dog, a wood-rat, and numerous birds, whose skeletons will be preserved as museum specimens.

New specimens are added to the museum every week. G. B. Norris, Third-year, gives valuable assistance in mounting and preparing specimens. A complete list of acquisitions to the museum will be published soon by Prof. Popenoe.

BERTHA KIMBALL.

The Alumni Meeting.

A called meeting of the resident alumni was held Saturday evening. Owing to the rain, the attendance was limited, but the object of meeting—a discussion of alumni representation on the Board of Regents—was accomplished as set forth in the circular letter mailed yesterday to members of the Alumni Association resident in Kansas:—

MANHATTAN, KAN., December 19, 1894.

To the members of the Alumni Association of the Kansas State Agricultural College:—

"At the last annual meeting of this Association the following resolutions were introduced by K. C. Davis, '91, and unanimously adopted:—

"Realizing the necessity of having Regents who are well acquainted with the needs and objects of the Institution in order best to further and perpetuate its efficiency and economic service to the people of Kansas, the Alumni of the Kansas State Agricultural College in regular annual session resolve as follows:—

"First, that we, as a body and as individuals, will endeavor by every honorable means to secure the appointment of a fair representation of the Alumni of this College on its Board of Regents.

"Second, that we will do all in our power to prevent the converting of any educational position, of trust into a political reward; and that we will fight with unrelenting zeal for the men who are best adapted to college work, regardless of party faith or affiliation.

"Third, that a copy of these resolutions be printed in the INDUSTRIALIST or any other paper of general circulation, and that a marked copy be sent to each of the various party candidates on State tickets."

"In accordance with the above resolutions a meeting of resident members convened at the College, December 15th, and it was decided that a Committee of three should be appointed to address a circular letter to the members, requesting each to forward at once to the Secretary a list of names of five members, residents of Kansas, deemed suitable for appointment on the Board of Regents.

"The Committee are further instructed to canvass this vote and forward the five names receiving the highest number of votes to Governor-Elect Morrill, with the request of the Association that one or more of these persons be appointed on the Board.

"Members are requested to write the names of their choice upon the enclosed blanks, seal in the accompanying envelope, and forward immediately to Miss Mayme Houghton, Secretary of Alumni Association, Manhattan, Kan.

"An informal ballot by the members present at the called meeting gave the highest votes to the following: Sam Kimble, '73; Mrs. Emma H. Bowen, '67; Warren Knaus, '82; J. W. Berry, '83; W. C. Moore, '88; I. D. Gardiner, '84; M. F. Leasure, '77; W. J. Burtis, '87; A. E. Wilson, '78; F. H. Avery, '87; C. J. Reed, '79; G. E. Hopper, '85; L. H. Neiswender, '84; Wm. Ulrich, '77; W. D. Gilbert, '74. This list is offered only as suggestive.

"Ballots to be counted must be in the hands of the Secretary by January 5th, 1895.

"A corrected list of members of the Association resident in the State is given on the enclosed sheet.

S. C. MASON,

J. E. PAYNE,

E. C. PFUETZE,

Committee.

The State Board of Agriculture.

The winter meeting of the State Board of Agriculture at Topeka, January 9th to 12th, promises to be a profitable session, if one may judge from the rich program prepared by Secretary Coburn. The College is represented by Prof. Failyer, Prof. Mason, Mrs. Kedzie, and Mr. Burtis.

WEDNESDAY, JANUARY 9, 1895.

AFTERNOON SESSION.—4 O'CLOCK.

Roll Call, and reports of committees.

EVENING SESSION.—7:30 O'CLOCK.

Address of Welcome.....Gov. L. D. Lewelling.
Response.....Thos. M. Potter.
Relations and Duties of Farmers to their
State Board of Agriculture.....Ex-Gov. G. W. Glick.
Taxation and Assessments.....Samuel T. Howe.
The Necessity for Meat Inspection—
(Illustrated.).....C. J. Sihler, U. S. Veterinary Inspector.

THURSDAY, JANUARY 10.

MORNING SESSION.—9:30 O'CLOCK.

Artificial Forest Growth in Kansas.....J. B. Thornburn.

Five Best Grapes for Kansas.....Prof. S. C. Mason,
Kansas State Agricultural College.
The Kansas Steer and His Brilliant
Future.....Mayor T. W. Harrison.
The Creamery Industry.....J. E. Nissley.
The Horse Situation and How Best to Deal
with its Future.....O. P. Updegraff.
Further Results of Chinch-Bug
Experiments.....Chancellor F. H. Snow, State University.

AFTERNOON SESSION.—2 O'CLOCK.

Cornstalks—(Illustrated).....President Henry E. Alvord,
Oklahoma Agricultural College.
The Sorghum for Forage and Grain.....F. C. Burtis,
Kansas State Agricultural College.
Raising, Harvesting, and Marketing
Potatoes in Kansas.....Senator Edwin Taylor.
Swine and Swine-Breeding.....S. M. Shepard.
Fish Production by Kansas Farmers.....J. H. Churchill.

EVENING SESSION.—7:30 O'CLOCK.

The Farmer in Politics and the Fraternal
Orders.....J. E. Hoagland.
The Farmer and the Professional Man.....Senator S. O. Thacher.
Our Girls and Manual Training.....Miss Gertrude Coburn.
Stout Manual Training School, Menomonee, Wis.
Domestic Science.....Mrs. Nellie Kedzie,
Kansas State Agricultural College.

FRIDAY, JANUARY 11.

MORNING SESSION.—9:30 O'CLOCK.

Fruit and Vegetable Growing under
Irrigation.....C. H. Longstreth.
Irrigating a Five-Hundred-Acre Orchard.....George M. Munger.
Making the Most of Our Natural Supply
of Water.....Senator James Shearer.
Irrigation Possibilities upon the Higher
Lands of Western Kansas.....A. B. Montgomery.

AFTERNOON SESSION.—1:30 O'CLOCK.

Election of Officers.
Evaporation, and Storage of Soil Moisture—
(Illustrated).....H. R. Hilton.
The Extent to Which Irrigation is Possible in
Kansas—(Illustrated) Professor F. Haworth, State University.
Some Irrigation as Done in Clark County—
(Illustrated).....C. D. Perry.

EVENING SESSION.—7:30 O'CLOCK.

Some Irrigation Problems.....Prof. G. H. Failyer,
Kansas State Agricultural College.
Periodicity in Kansas Rainfall, and Possibilities
of storage of the Excess in Rainfall.....Chancellor F. H. Snow,
State University.

Roads and Road Making.....Gen. Roy Stone,
Office of Road Inquiry, U. S. Department of Agriculture,
Washington, D. C.

All railroad lines have granted an open rate of one fare and one-third for round-trip tickets from all points in Kansas, including Kansas City and St. Joseph, Mo., and tickets will be sold January 8, 9, and 10, good for return including January 12, 1895.

Several of the best hotels in Topeka have made low prices for those who attend this meeting. The Throop will give an open rate of \$2 per day; the Chesterfield and Dutton, \$1.50 and \$1.25; and the Fifth Avenue, \$1.25 and \$1.

COLLEGE ORGANIZATIONS.

December 15th.

The Hamilton Society was called to order at the usual time by President Barnett. G. W. Finley led in devotion. In the absence of the Corresponding Secretary, R. R. Denny was appointed to take his place. The program was opened by W. H. Painter, who read a well-written essay on the character and life of Chas. Dickens. H. G. Johnson and R. H. Brown next favored the Society with a good selection on music. S. M. Holland gave a well-delivered declamation entitled "The Fear." "Variegated Dogs" was the subject of a select reading by I. W. Williams. The question, "Is heredity more influential in the development of man intellectually and morally than his environments?" was next debated on the affirmative by A. P. Carnahan and M. L. Heckert, and on the negative by C. A. Johnson and G. W. Finley. Both sides brought out good points, and, after a lively debate, it was decided in favor of the affirmative. In a discussion V. Maelzer gave a comparison of rhetorical, drill, and society work. The news of the past week was then given by G. B. Norris in a very entertaining manner. The program for the evening was closed by an extra good selection of music by C. F. Marty, G. B. Norris, and C. E. Pincomb. The Society enjoyed the visit of several of the lady members of the Fourth-year Class. It being the last meeting of the term, there was an unusually large amount of unfinished business, which was taken up, after which the Society adjourned. R. R. D.

December 14th.

The Ionian Society was opened by congregational singing, Gertie Rhodes at the piano. Maggie Carleton led in devotion. After roll call the program was opened by an excellent piano solo by Miss Daniels. On being recalled she favored the Society with another good selection. Vocal duet, Joanna Freeman and Mabel Cotton. A parliamentary quiz by Olive Long followed, showing an improvement in Ionian knowledge of Robert's Rules of Order. W. A. Cavanaugh and Sadie Stingley sang of "The Summer Time Long Ago." Mrs. Dewey-Earl at the piano. From the Oracle, presented by Ora Yenawine, we heard "A Prof's Story," "Of Duty," "Circumstances," "A Look into the Future," and several other good articles. Extemporaneous speaking, Lynn Hartley, committee. Vocal solo, Jessie McClurg. An essay, entitled "How dear to my heart are the scenes of my childhood," was presented by Grace Stokes; she gave a humorous account of a taffy pull when mother was away from home. This closed the program, and the business of this, the last session of the term, occupying an unusual amount of time, was carried on with great interest till the room grew so dark the Society adjourned. E. E. N.

The proximity of New York and the number of city men having summer homes is the cause of many boys leaving the farms. They see the large fortunes acquired in a few years and the luxuries obtained by means of them. They can readily get to the city and see only the brightest side of life. They should be taught the danger of a city life. The most potent influence to keep them at home is to make the home attractive and not the bare unsightly places often seen. Encourage the children to plant trees, shrubs, and flowers, and care for them.—Henry Wood.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Dr. Murlin of Baker University has a lecture somewhat ominously entitled "The Search for a Man."

The Newton School Board at its last meeting docked several teachers' salaries because they lost a quarter of a day looking at a parade that was passing by the school-house.

The students at Baker University at Baldwin have petitioned the State Military Board for permission to organize a troop of cavalry for the Kansas National Guard. The matter has not yet been acted upon, but Adjutant General Davis is of the opinion that the petition will be granted. At present there is only one troop of cavalry in the State—at Lawrence.

In the annual prize contest in essay and oration at the State Normal School Saturday evening Miss Ray McIntyre, of El Dorado, took first; Miss Maud Hamilton, second place in essays, and Forrest Woodside, of Yates Center, first, and A. A. Finley, second place in oratory. This gives Woodside the honor of representing the school at the State contest at Topeka, February 22nd.

Twenty women were elected to the office of county superintendent of public instruction in Kansas November 6, as follows: Miss Ora Pedrick, Clark county; Mrs. L. M. Brierty, Cloud county; Miss Emma McLeerey, Decatur county; Mrs. Ollie B. Mullins, Finney county; Miss Epha M. Brownlee, Grant county; Miss Mollie Land, Gray county; Miss Flora B. Davis, Haskell county; Miss Nannie L. Anderson, Johnson county; Miss Tillie Davis, Kearney county; Miss Dora M. Bowles, Kingman county; Miss Ida C. Martin, Labette county; Mrs. R. A. Riggs, Lane county; Miss Jennie Kessler, Meade county; Miss Anna Keller, Montgomery county; Mrs. T. B. Porter, Norton county; Miss Etta Cross, Osborn county; Miss Alice G. Crumpton, Pawnee county; Miss Anna L. Carl, Lyon county; Miss Kate Saunders, Seward county; and Mrs. Fannie R. Slusser, Wyandotte county.—*Farm Field and Fireside.*

Horticulture—Its Attractions.

To the person who loves the useful and beautiful in Nature, horticultural pursuits offer many attractions—work for both mind and body of the very best kind, bringing into use our best faculties and leading us to contemplate the beautiful embodied in the delicious and healthful fruits, fine foliage, and beautiful fragrant flowers.

With all these things before him the true horticulturist engages in his work with enthusiasm and delight. Majestic trees, fine fruits and flowers have far more charms for him than walls of brick, stone, and mortar, and nothing will win his attachment from those things which God in his loving kindness has given him to enjoy.

To reap the best results, it is not necessary to embark in this work on a large scale; only the experienced should undertake such a venture, and then great caution and forethought is necessary.

Those who make the greatest success do thorough work. Study economy closely, and undertake only enough to be carefully looked after.

A few choice flowers, such as hardy roses, hydrangeas, spiraeas, lilies, etc., some choice small fruits, and a limited number of trees will give great satisfaction to anyone who has time enough to give them a little attention. To people who are confined indoors a portion of the time nothing gives more real pleasure and benefit than these things. They are real, they are beautiful, and repay the owner richly for the effort bestowed upon them.

The culture of flowers is very interesting, and there are so many excellent varieties that one can suit every fancy. God created the flowers. They are here for a purpose.

We love flowers, not only for their beauty, but for the lessons they teach. We admire trees, not only for the fruit they produce, but for the protection they afford, the fuel they give, and the beauty they add to the landscape.

Let us encourage a love for these things, and thus add wealth, happiness, and beauty to our country.—*Correspondent Farm, Field, and Fireside.*

Sunlight for Horses.

The proper nursing for sick horses requires only slightly less delicate attention than the nursing of sick men, says the *London Live Stock Journal*. Not to speak of diet and medicine, frequent change of bedding and clothing are as indispensable in one case as in the other. Perfect attention, abundant light, and pure atmosphere should always be prime considerations in treating the stable patient as the human subject. The influence of light on the animal frame, and even on the rudest form of organism, is highly beneficial. The horse is by nature one of the children of light, and not of darkness—of the open air, not of the confined, stuffy stall. In his wild state he seeks the sunlight of the plains, and avoids the darkness of forest glens; and if we would fortify him against the destructive effects of protracted illness, we should insure him the free light of day and full enjoyment of the pure circumambient air. He should, when ailing, not be tied up to rack or manger, but have the comparative freedom of a roomy box. It is strange that stable architects think any odd space in a dark corner, that cannot be well utilized to form stalls, is quite good enough a situation for a loose box or for an infirmary for a horse "told off" as too ill to work and requiring veterinary treatment. There is much room for improvement in the architecture and sanitation of the stable for both sick and healthy horses.—*Colman's Rural World.*

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OF ALL DISEASES

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MANHATTAN, KANSAS.

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THE INDUSTRIALIST.

VOLUME XX.

MANHATTAN, KANSAS, SATURDAY, JANUARY 12, 1895.

NUMBER 18.

DEDICATED.

Library and Agricultural Science Hall Formally Set Apart for Its Intended Use as a Temple of Learning—The Banquet—The Toasts—Good Words from Absent Friends.



WITH due ceremony the new building called Library and Agricultural Science Hall, provided for two years ago by a wise Legislature, finished last summer, and occupied for the first time at the beginning of the fall term, was dedicated Friday evening, December 28th, in a banquet to the Kansas Academy of Science and invited guests of the College. The exercises were held in the lower museum hall of the building mentioned, where covers were laid for one hundred and twenty persons. The excellent menu was provided by members of the Cooking Class, and consisted of—

Soup	Wafers	Olives
Celery	Cutlets, with Peas	Rolls
Souffle	Cranberry Jelly	Lemon Jelly
	Salted Nuts	Chicken Salad
Oyster Patties	Cheese Straws	Cake
Orange Charlotte	Coffee	

The graduates—including post-graduate students—and members of the Cooking Class responsible for the banquet in preparation and serving are Misses Phoebe Haines, '83; Bertha Winchip, '92; Laura Day, Nora Newell, Clara Castle, '93; Clara Newell, Ada Rice, Sue Long, Etta Ridenour, Mary Wilkin, Lynn Hartley, Gertrude Havens.

The Toasts

For the Kansas Academy of Science—

Dr. L. E. Sayre, President, Lawrence, Science for the Industries.
Dr. A. H. Thompson, Topeka, Books as Tools of Science.

For the Building—

Hon. Wm. Knipe, Manhattan, Legislative Interests.
Mr. Seymour Davis, Architect, Topeka, Scientific Construction.

For the College—

Rev. Washington Marlatt, Manhattan, Reminiscences.
Hon. W. D. Street, Pres. Board of Regents, Oberlin, Science in Farming.

For the Alumni—

Prof. S. W. Williston, Class of '76, Lawrence, Filial Duties of a Graduate.
Prof. F. A. Waugh, Class of '91, Stillwater, O. T., Duties of the Graduate to his Fellowmen.

For Education—

Chancellor F. H. Snow, Lawrence, Evolution of Science Teaching.
Hon. F. D. Coburn, Topeka, Science for the People.

For the State—

Ex-Gov. Geo. T. Anthony, Ottawa, The State the Supporter of Science.
Ex-Gov. Geo. W. Glick, Atchison, The State and the Agricultural College.

For the World—

Hon. W. B. Sutton, Russell, Learning in Labor.

President Fairchild greeted the visitors, and as Toast-master introduced the speakers with pleasing words of comment. The responses in full follow:—

FOR THE KANSAS ACADEMY OF SCIENCE.

"Science in the Industries," Prof. L. E. Sayre, Lawrence, President of the Academy. Mr. President, Members of the Faculty of the Kansas State Agricultural College: I wish, in behalf of the Kansas Academy of Science, to thank you heartily for the prominence you have given our organization upon this memorable occasion. And personally I wish to say that I am somewhat embarrassed. These two subjects, Science and Industries, have been revolving in my cranium for sometime. I have endeavored to work out a scheme by which in a few minutes, say a five or ten minute after-dinner speech, I could fairly show the relation which exists between the two, and the importance of this relation. I have finally concluded that if I were to accomplish this, I would meet the demands of an after-dinner speech, of saying much in a few words.

I wish to acknowledge that the attempt to master this problem has been an excellent mental discipline. I believe it is generally conceded that it is the difficult problems that give the best mental discipline. I do not see that this discipline has made the subject any less obscure to me, but that is the usual way, generally, with difficult problems, and the way they show their beneficent effects. We may not understand the subject any better, but we better understand ourselves.

Wrestling with a weighty problem is apt to bring a haughty spirit down. This is a good thing. It will

not do for one to get too lofty an idea of himself. A poet has said,

"The eagle himself would be starved,
If he always soared aloft and against the sun;
The bird of wisdom flies low,
And seeks his food among the hedges."

Bishop Reynolds says: "The fullest and best ears of corn hang lowest to the ground." I shall, in responding to the toast, recognize, therefore, its immensity,—too great for me to undertake to say much relating to it in a few words. But I desire to bring into narrow compass what I have to say.

Allow me to give my own definition to what I consider two of the most important factors in the advancement of civilization. First, the industrialist. It is he who utilizes the forces of nature which are susceptible of direction. Second, the scientist; who is the philosopher who discovers these forces and the laws which govern them. The scientist deals with abstract principles and laws without reference to the effect which they might have upon industrial art. The industrialist is disciplined in appropriating the fruits of discovery in science. His tendency is in the direction of practical and applied science.

It would be impossible to over-estimate the value of the service to mankind rendered by the scientist. I may add, with equal emphasis, the same may be said of the industrialist. The forces which move civilization may be accredited as much to the one as to the other. The steam engine and the dynamo are the products of the scientist on the one hand, who has studied out the forces of nature; but none the less are they the product of the mechanic, who has been able to direct those forces for the benefit of mankind. Humanity is indebted to each alike; more than this, each is indebted to the other.

The scientist may say that he cares nothing for the practical results and the ultimate products of discovery, and the industrialist may say that he cares nothing for the abstract principles which underlie the science which he applies; yet, in spite of this disavowal on the part of each, a third party, the community, is perhaps the best judge. We shall have a paper read tomorrow by one Professor on the subject of "The Curvature of Fans." We cannot see the practical value of this subject during the winter season, when, may be, some complain of our cool surroundings; but in the heated season of the summer months who would not desire to know the proper curve to give to a fan? I have often thought that some one among our scientists would rise as one of the landmarks, and would give us the best possible improvement on the old-fashioned palm leaf. I have not studied out the practical side of number seventeen on the program, "Ethyl and Methyl alcohol on ortho and meta-di-ago-benzine-sulphuric acids, but I presume it has something to do in connection with the curvature of these fans. Possibly it is a new dynamo to move those fans on a large scale for barber shops.

One could in this way go through our whole program of tomorrow, and search out the practical side of the workings of this organization. But, all pleasantries aside, what would the community have to say touching the question of the value of science without the industries to apply it? Science alone could well be compared to a great lumber yard with no mechanics or carpenters to shape and adjust its materials. The community would go houseless and homeless. We might have the most thorough knowledge of the contraction and expansion of gases; most profound philosophical insight into the forces of the imponderable agents, heat, electricity, and light; but what advantage are these to mankind without the steam engine, the dynamo, the polariscope, the microscope, the camera, and other appliances which direct these forces, causing them to yield practical results for utilization?

If, then, practical arts are the normal and proper sequence to science, we claim for the industries the highest place, for nothing is complete until it has reached its proper and legitimate end, until its adaptation has been secured; and this adaptation is found in actual service for the betterment of human condition. That we are coming to understand the force of this is apparent more especially in our systems of education. Practical industrial education is taking every where a high rank in all of the institutions of the world. It is becoming more appreciated and understood in this country than ever before. The question whether manual instruction shall lend itself to the principles of education is continually being discussed by the most competent authorities, and particularly on the Continent. The dictum of the Congress of Technical Instruction, assembled in Paris on the 13th of July, 1889, was in effect this: manual instruction ought to form an integral part of every good system of education, since it contributes to develop the activity, the observation, the perception, the intuition, and especially the taste for manual occupations.

If we teach a young man how to handle tools, we give him not only the foundation for pleasure and enjoyment, but a condition of possessing a sound mind in a sound body. The rude and unfinished materials of nature appeal to him for refinement as they do to no other. Let us then emphasize the importance of the industries, for the teaching of which our Kansas Colleges are equipping themselves. Not losing sight of the importance of scientific work, they are very properly providing for the training of the hand as well as the mind to properly apply this work. May the good work go on in Kansas until it can be said, "She has brought together these two branches of human activity until Science and Industry are made to subserve the highest possible efficiency to the service of the 'Sunflower State.'"

"Books the Tools of Science," Dr. A. H. Thompson, Topeka.

Mr. Toast Master, ladies and gentleman: While I regretted my inability to do justice to this important subject, I could not refrain from accepting the kind invitation to participate in the honors of this occasion. The dedication of such a building as this to the pursuit of pure science is an event so significant and full of meaning that a common citizen may well feel proud of having a part in the ceremonies of its dedication. It is an event that means progress, liberty, growth; for, as Professor Alexander Winchell has said, "Modern science is the center of modern civilization. It affords not only the concrete forces of civilization, but also that higher and peculiar culture which trains men to be worthy to wield modern civilizing forces." Such institutions bring the "modern sciences to our doors,—a shining array,—fresh from triumphs over ignorance and inertia, with civic honors on their breasts, and crowned with the honors of a glorious civilization." These are they which stand at the portals of the infinite, and bid us on! and on! and on!

Not being a professional scientific man myself, but belonging to that great army of amateurs who look upon science from the outside, of the rope as it were, and who render distinguished service by applauding the performances of those within the ring, I must be permitted to look at "Books as Tools of Science" first, from the position of the amateur. The one thing that impresses me, after the all-powerful civilizing influences of science have been noted, is the value of science and scientific books as a means of culture. True culture is that exercise of the mind which enlarges the existence and becomes transformed into strength; and this strength means greater susceptibility, greater capacity, greater activity, greater usefulness. And surely no branch of learning furnishes the elements of this strength in greater proportion than pure science. It bids us grasp and know. For this culture the books of science come to the professional and the amateur alike, and tell of inventions and discoveries and investigations, which they bid him make his own, if he would keep pace with the progress of the world. Books are the treasure-houses of the ages. They are the vehicles which gather and bring the accumulated knowledge of the past to our doors. By distributing knowledge they become the handmaids of progress. They are the fountains from which all must drink who would be of the elect. As Addison says, "Books are the legacies which genius leaves to mankind." Or Carlyle, "All that mankind has done, thought, gained, or been is lying in magic preservation in books. The true university, these days, is a collection of books."

But "Books as the Tools of Science" are also of a more practical interest to the professional and the votary of science, for their directly utilitarian value, and what service they can render in assisting in the work of investigation and teaching. For books—scientific books—are teachers, and like them, perform two principal offices. First, as a storehouse of facts; and second, in the power of teaching those facts to others. As the teacher and investigator must acquaint himself with all that has been done in his particular field, where can he go but to the printed page? Every science has a literature of its own with which its followers must be conversant. For this reason the specialties have sprung up; for the field is so vast and the books so innumerable that no one mind in an ordinary lifetime can begin to compass the total of human knowledge. Not only that, but no one worker expects or tries to cover even the literature of his own speciality. He uses his mind rather as an index to find any particular thing that he may want, and not as a crammed encyclopedia.

In our day the useful book is the reference book. Instead of burdening the mind with a multitude of facts, we endeavor merely to know where to find the acts when we need them. So the library is the tool-house, the books are the tools, and the laboratory and the schoolroom are the workshops. Books are tools in a double sense. They are the guide and helper of the investigator,—they tell him of what has been done in his field, and instruct him how to do more. If he is a teacher,—and most scientific workers are, in one way or another,—they teach him in addition how to teach, how to mould the human mind that comes to him crude and impressionable, that they may go from him symmetrically moulded and well polished. The crude marble comes to his hand formless and void, but white and flawless, and it is his to chisel therefrom forms and beauty. Must he not be well trained, full of knowledge, reverent in spirit, conscious of responsibility?

I cannot close without a tribute to the greatest book of the century—a scientific book; one which has revolutionized thought, changed the course of philosophy, and moulded intellectual progress. I have but to name Darwin's "Origin of Species." That book was the birth of evolution. The suggestions of the past were grouped, and with his own wonderful observations and deductions, were crystallized into a system of philosophy that was at once simple, direct, and beautiful. His matchless work accounted for the phenomena of life as no system had ever done before. The book was great because it contained a great idea for which the world was waiting. The fuel was already prepared, and the book was the spark that lit the blaze that spread, and spread, until it engulfed every department of modern thought. And in our day evolution stands abreast of gravitation as one of the invincible laws of nature, and is to every scientist a great working principle. That is the power of a great book that gives to the world a great idea.

Victor Hugo, in that magnificent peroration on the Battle of Waterloo, in "Les Misérables" says, "Neither Germany, nor England, nor France, is contained in a scabbard, and at this day Waterloo is only a clash of swords. A mighty dawn of ideas is peculiar to our age, and in this dawn each nation has its own auroral lights. They are majestic because they think. The high level which they bring to civilization is intrinsic with them. Not Wellington, not Blücher, defeated Napoleon; but he fell because he could not harmonize with the nineteenth century. Another series of facts was preparing in which Napoleon had no place."

Ideas, and not men, lead the van of progress. The world is attuned to the step of its march, and the inspiring strains of its martial music makes every heart beat high. Every thing that will not join its ranks must be dragged after as a straggler. If ideas rule and lead the world, it is the books who are their heralds. They proclaim their coming, they present them to the world, they call all the world to follow.

And now, Mr. Toast Master, I give you back the toast, "Books as the Tools of Science."

FOR THE BUILDING.

"Legislative Interests," Hon. Wm. Knipe, Representative from Riley County. Mr. Chairman: I notice some individual scientific gentlemen, apologizing just a little for their remarks that they were about to make; and I have learned long ago that men of certain callings and professions, when together at associations of that sort could speak very well. I want to say to you in the beginning, that I don't know very much about science, nor much about this building, having been through it but very little; but I do know something about the struggles and difficulties under which we labored to get the appropriation. And I guess Professor Snow, who is here, knows a little about that in regard to the State University. I don't know whether he started out with as unfavorable surroundings as we did in getting an appropriation for the State Agricultural College. I don't know whether I ought to say it or not, but I believe I will venture it anyway, and say, it was just a little harder and more difficult to get an appropriation for the Agricultural College than for any other institution in the State of Kansas. So it was generally thought when the Legislature met, and we began work; and it looked as if there would be no appropriations at all. In fact, there was a feeling that there would be nothing for new buildings at all.

I felt that it was new business to me, but I had engineered some things in my life in other directions, and I didn't think it would hardly do to fail in this. I learned, or got the idea, that the Representative of any county was weighed up or valued according to the appropriation he got for his institution. I had a little of everything to contend with, but I went at it scientifically. I laid my ropes well, and the first thing I did was to get on the Ways and Means Committee. If I had failed to do that, I would have had to ask the liberty to meet that Committee, and then retire and give Professor Snow a chance, or Professor Taylor of the State Normal. I scientifically got on that Committee, and I stayed right there. I talked to the fellows in the Committee room and on the street and everywhere else in regard to this institution. So we had the appropriation for this Agricultural Science Hall, and then we had another thing connected with it that was a little amusing to some fellows. After we got past the steam plant, we got on the farm; and there was two thousand dollars for a farm building, and then there was two thousand five hundred dollars to establish a scientific butterine arrangement,—that amused them a good deal. And another thing that interested them,—Professor Georgeson wanted a thousand dollars for a piggery, a pig pen. And all these things I had in my way, but still they were friendly to some things, if not others. But I am glad we had success after hard work, and this grand building, that I think is a grand building, and a building that is adapted for the purposes for which you desire it. And I trust there may much good come out of it.

And now as for the building and all that pertains to it, and all that you need,—and I don't know what that is, for it's a crying baby, and I suppose will be for all time to come. I have noticed another thing, however, it's the crying baby that always gets the candy. There is my friend Hoch, and the Hon. Mr. Sherman from Shawnee County, who helped,—I want you to get acquainted with him,—and Mr. Newman, who is here too. They will bear me out in some things I am saying. I don't know, Mr. President, how long I am to talk. You can shut me off any time; for I am like a narrow gauge railroad, I can stop anywhere and start anywhere.

But what is the duty of the State, the Legislature toward this building, and any other public building that belongs to the State? In the first place, if we have the money,—and we generally have it,—I undertake to say, it is the duty of the State to appropriate that money liberally among these institutions. That's my opinion about it. And the people of Kansas are a scientific set, and especially in Riley County. And I put in a month last October, as scientifically as I could, all over this County, to get the people of this County to place the legislative matters all in my hands, where they would be safe, and they did it. And when I got down to Topeka, I propose there to be as scientific as I can, and get you as good an appropriation as I can, if you want any. You haven't said anything yet. I am going to try to keep up with the State University if I can.

When this matter was up two years ago, and the other institutions were all represented there, I talked over the telephone, and told them Professor Snow was there, and other Professors were there, and Judge Thacher was there, and I seemed to be going it alone. I told them to bring down all our friends. And they came down and things began to soften,

and the tide turned. I don't know what my influence was, how much it was, but I am glad that the whole thing that you asked for, the ninety-eight thousand, went through our house. I proposed to get you all that you asked for. It was cut down just a little in the Senate.

I am proud of this building, and I am glad that I had a little to do with it. But Mr. Sherman and all the rest of them helped me more or less in it, because he could make the good speeches; for some of them could out talk me all to pieces about legislation, for I don't understand the terms. Now, Mr. Sherman can talk better than I can in legislative halls, but I can beat Sherman preaching any day and at any time, for I can use theological terms very readily; beat him all out of sight. But all honor to these men. As I said I want you to get acquainted with him, and get him to help us with our appropriations.

I would like to go out on the farm just a minute, and then I will be done. Some things happened down there at Topeka, when I talked to individuals about the appropriations—for instance, about Professor Georgeson's hog pen, or piggery, as it was called. One fellow popped up and said, "I want to ask the gentleman from Riley a question." I said, "All right." "I want to know what those agricultural folks mean by a piggery and want a thousand dollars for that?" "Well," said I, "They want to raise thorough-bred hogs, Poland Chinas, Berkshires, Chester Whites, Jersey Reds, and all other kinds." Well, he could not see why most any kind of a pen covered with straw wouldn't do. He said, "Out west, where I live, we raise thorough-bred children, block heads, tow heads, sorrel-tops, and all kinds; and, he said, "We live in dug-outs, and we haven't a house worth a thousand dollars." Of course I had to take that fellow, just put my arm through his, walk down the street with him a little while, and talk to him about it, and when the time came around he voted for it.

And my old friend Joe Rosenthal, he bothered me a little while. But Brother Rosenthal wanted to go to Germany, or some other place, wanted the President to appoint him. He had a petition about that long. He asked me if I would sign it. Oh, yes, I said, I would sign it, if he would vote for Prof. Georgeson's hog pen. And when the vote was being taken Mr. Rosenthal was asleep. I went around and woke him up; and he said, "What's up now?" I said "We are going to take a vote on the State Agricultural College appropriation." And he said, "All right, Brother Knipe, I will vote for it." That's the first time a Jew ever called me brother.

Well I promised a good many things. I promised them you would build them a good, creditable building, and you would not waste any of the money. And I want to know if you have done it; and if any of the money was wasted, I want to know it. But I don't believe you have wasted it, and I think they will be well pleased with what you have done. But then we wanted all this agricultural business. We cut that out for something more scientific, and we wanted this Hall worse than the other. I would like to have that now, and all that you need for this building to complete it.

There is another thing I am interested in; it is Mrs. Winchips's Department. She has an important matter in hand. She is teaching our daughters to cut and stitch, and cut and tuck. And while she is at that, I hope she will teach them to sew the buttons on their husbands' coats. And then there is Mrs. Kedzie's Department. I am especially interested in that, and I think there ought to be an appropriation in that direction. For if there is anything in the world that will annoy and make a man mad, it is to find out that his wife can't bake bread. And she is teaching them to bake bread and cook and all that kind of thing. If some of us had been here when the old College started up, we might have heard a man make a speech on "Marrying a Lady." He said he thought she could cook, and when he found she couldn't get a meal of victuals that met his idea, he asked her if she could make a good "corn dodger." And while she tried he went and prayed that the Lord would give her gumption enough to make a good "corn dodger." And when he came out he found she had burned it, and was crying. If Mrs. Kedzie needs anything I think she ought to have it.

Now, that is all I have to say about it, and I didn't want to say this. I tried to get the President to let me off; and I wouldn't have been here, if it hadn't been it would have looked a little like indifference. And I wouldn't have responded to this toast if my adviser had been at home. She is in Oklahoma. President Fairchild is in about the fix I was one time, when a certain preacher visited where I was preaching. He couldn't preach, and I knew it. But I asked him to preach, and I thought he would have gumption enough to decline the invitation, but he accepted it promptly; and of course I had to stand it. I had gumption enough to accept the invitation; and I thank you.

"A Commodious Abode for Science," Mr. Seymour Davis, Topeka, State Architect. Mr. President, ladies and gentlemen: It has fallen to my lot to call your attention to the building in which we are assembled,—a building which I hope will be found to be "A Commodious Abode for Science," for that is the precise wording of the subject which your President has invited me to speak on. It may appear to you (as I confess it did at first to me) that some one else might be found to display the merits of this Agricultural Science Hall with more propriety than its architect. Yet, this I must say: that there is no one who can tell you, as I can, how you are indebted for the commodiousness of the building to the President himself, and to his able co-professors. I assure you that the chief points in the problem of its planning were solved by these gentlemen, and to them the credit is due for suggesting the arrangements for library and society rooms, the al-

lotment of space for the several sciences of zoölogy, entomology, botany, and the herbarium, and for this room, which is to contain the results of all the patient thought and labor of our scientists. What remained for the architect to do was simply to carry out the suggestions in some chaste and appropriate design.

In reference to my own part of the work, I may remind you that there is nothing that is altogether new in the architecture of today. In architecture—as, indeed, is true of all other arts—we are constrained to follow the law of historic continuity. Our designs follow more or less those of other periods and countries with which our only associations are those derived from education. I do not know whether you are all aware that there is such a science as the "Ethnography of Art," but its object is to trace out the historical development of art forms, to distinguish the characteristic feature of the art of each race of the human family, and so far as it can to restore the past from its ruins. In attempting such restorations for the sake of applying them to our own purposes, we cannot from a few details reconstruct a whole with the same certainty and by the same process that enables the naturalist from a few fragments of bone to restore the complete skeleton, and even to cover it with the outlines of muscle and hide, and so to present us with the entire effigies of the megalosaurus or pterodactyl.

We cannot do like that. But we can try to enter into the idea and spirit of a particular epoch—its *motif*, as the French call it. As we do so, we find ourselves enveloped in an atmosphere of sympathy with the great creative genius of the best periods, and under the afflatus—if we are happy enough to be capable of any inspiration at all—we may evolve a design that will harmoniously blend with the architectural ideas under which the world has been educated, at the same time that we meet the requirements of our own day and generation. In some such way it has come to pass that American architects have for such purposes as those of your College frequently followed the leading lines of the Romanesque of the thirteenth century. The revival of this style may be said to be peculiarly American. It possesses qualities of strength, simplicity, and adaptability to modern requirements which are entirely suitable to a republic ready to ally its history with the most glorious memories of republics of other days, and to place itself in our own day in the foremost ranks of the nations that are making history and art and science now. At all events this is the style as revived by Americans, that I was led to adopt in carrying to completion the facades of this building; and I may state that I was encouraged in this by the excellent quality of the local material.

In the arrangement of the interior an architect will think himself successful if he has managed to meet fairly well the requirements of those who are to use it. The useful, or, as I may say, the commodious, will in all cases be found to lie at the foundation of the beautiful. To combine the useful and commodious with the beautiful is, indeed, the true problem of constructive art. If we could only learn the secret of that combination, our art would be consummate; and it is the secret of art's mistress, alas, her inimitable mistress, nature. It must be confessed that we have not yet penetrated into that secret of nature, by which, while she appears only to be following principles and processes of necessity and order, she attains, at almost every step, some result that is a thing of beauty. But if we cannot attain so much as that, we can at least endeavor to follow her example in beginning with the useful. I think we shall find that the useful, when carried out with consistency and minuteness; the useful, when it becomes delicately appropriate, has already the first elements of beauty.

I wish I could hope that your new building in its general design and in its details might be found to be exquisitely appropriate. I shall be content, indeed, if it is useful and comfortable and commodious. But I have the desire that it should be expressive of the spirit and aim of your institution; that it should be consistent with the thoughts that engage your minds; that it should silently inspire the students with feelings of solidity and thoroughness and simplicity and truthfulness; and perhaps I may add the humble wish, that it might also afford, at least in its spirit and aim, a modest example to the students in industrial art and design.

FOR THE COLLEGE.

"Reminiscences of the Beginnings," Rev. Washington Marshall, Manhattan: In thinking over this subject, it came into my mind, what can be said that has not already been said? And in order not to repeat the twice-told tale, I concluded to go entirely back of anything that had been published as yet, or that I ever saw published, and tell something of the beginning of the thought or idea, and how it grew up to what we see before us. I will just say here, that in the year 1854, George S. Park of Parkville, Missouri,—the man who had an abolition press thrown into the river in 1855, as all of you who know the story know,—came up here with others in a steamboat, and went as far as Fort Riley, which was then being built. And on its way back the boat stopped just below the mouth of the Wild Cat, out here where Higinbotham's ranch stables are. And he and some others went out on to the high prairie there, or bench, and laid out a town and called it Polistra, which, I believe, is Greek for central city; at least, some one told me so. Among other propositions was one to build an agricultural college and locate it at that place. That is what I was told.

The idea in my own mind of an agricultural college, as far as I remember arose sometime about the year 1853, when I stood upon the platform of my alma mater, and had in my hand what is called a "sheep skin." And yet in looking out over the world I felt that I was practically fit for nothing after those

years of hard study, and there was nothing I could turn my hand to but what I could have done before I started, and make a living. And yet I wasn't a poor scholar, either. I stood about as well—a little better—than the majority of the twelve young men that stood there with me. I conceived the idea then of laboring for an agricultural college. I don't know that I had it by that name, but it was for a college or school that would teach farmers' boys how to farm in such a way as to lift them above what they were at that day and age of the world. For the want of something else to do, I went home and hired myself out to split rails and chop cord wood at fifty cents a day, and I was jeered all the while, and asked if I couldn't have done all that without spending so long a time and so much money at college. And when I went into town with a load of potatoes I had grown myself, and sold them at twenty-five cents a bushel, the Methodist preacher looked at me with a laugh and a sneer, and wanted to know if that was what I went to College for. And so I had this thing thrown up to me at that time on every side, until at the end of a couple of years I proved to them, that even though I had gone to college, I knew something about agriculture, and knew how to make money, too; for I had laid up eight hundred dollars in that time by the work of my own hands, and nothing else but my brains, and was ready to come to Kansas.

On the way, when I came here in 1856, the first thing I thought of was that agricultural college. In fact, it had become an idea, a fancy, a fad, a sort of hobby. And I would talk about it to every one that I could get to listen to it. I hadn't been here a month until I had talked to a dozen men in regard to it, and they told me of these men who had come before me. And finally one man told me there was a couple of other men on the Wild Cat that talked college, I had better go and see them. And I set out to find them, and found they were college men; and while they were talking about a college, it wasn't an agricultural college. It was the old-fashioned college that I had just left a couple of years before. But we put our heads together and talked about this matter, and we agreed to labor together in order to build a school here of collegiate grade, and to put in my idea of agriculture with the rest. That is the way the idea grew here of an agricultural college. Now we worked together. That was in '56 and '57, and in the spring of '57 we got together in a cabin down here on the Wild Cat, and organized what we called a set of trustees for this agricultural college we were going to build, in order that we might present it before the Methodist Church, and get them to father it for us, so that we might go ahead with it. We did so. The church agreed to take it under its care, and give us the privilege of going ahead and putting it up.

Now we had nothing to build it with. We could only talk it up, in order to create a public sentiment in its favor. And let me tell you that is a hard matter to do. While I found lawyers, doctors, and almost every class of men willing to listen to it, I found those that cared the least for it were the farmers themselves, and when I mentioned money to the farmer he laughed. And the question came up, what sort of a hobby has that fellow got? And the conclusion was, there was money back of it somewhere. Now you would have naturally thought, when we proposed to put a college right here in Manhattan in this way, that we would have no opposition, everybody would favor it certainly; and yet there was from first to last, a very strong, persistent, bitter opposition to the scheme right straight through. I don't know that I need to mention names. When I come to write that history of the College a few years from now, if I live, I can mention some names without any fear, and tell some facts that have never been told. I want to just add one little circumstance, for I do not propose to tell all these things now.

The first year we started out to build this college was not a success. We sent an agent east, after having put in our own subscriptions to the amount of fifteen or eighteen hundred dollars and an offer of land, and the agent came back without anything. There was nothing to build a college with. He had not even enough to pay his own way there and back, and salary. We were a little worse off than when we started, and I said to them, said I, "Gentlemen, we are all wrong. We have no charter, we have no land to put this college on, and we couldn't get any title to land, if anybody could give us any, or make us a promise of any." There was nobody had homesteaded their land, or taken out any title to property. Said I, "We will go down to the Legislature and get a Charter to start with, and then we will get the title to a piece of land here to build it on, and then we will go ahead, and have something to show for it."

We went down to the Legislature; I went there myself, and bore my own expenses, paid my own fare there and my board bill, and drew up a charter for that college. I drew it up myself, by the aid of a lawyer. I simply consulted him about some terms and some little things, but didn't change it in form. And I presented it to a certain member, and he passed it to second reading at once. I followed it through, and before the end of the month I had that charter in my pocket signed by the Governor, and on my way home. That is the way we got it. And in that charter I had a clause allowing us to have an agricultural department in the building we built. Hence it has been noted by many as rather queer, something unusual.

We went to work to raise money to build the college. And I will say in brief, we laid the corner stone in May of 1859, and in the January following, 1860, we opened a school in the building, having spent ten thousand dollars, and we had but four thousand promised us in the spring, when we started. We went ahead on faith. And that ten thousand dollars had put up a new building and finished up a room in which we could open the school. And in the spring, in April, we reported at conference what we had done. We had a site, a building, and a school of fifty-three enrolled scholars. And those scholars were study-

ing higher mathematics, such as Algebra; Latin and Greek; and other studies of a lower grade. I will just say here too, that they put me in as Principal or President of this college because of my supposed executive ability. And they hired also, from the old State of Connecticut, for her known scientific ability, a young lady to teach, and together we ran this college for two years, separately at first and jointly at last.

Now, one or two incidents, and I will stop. When the trustees agreed to go into this matter of building a college, they said to us three men, Goodnow, Denison, and myself, "You can go ahead and do just as you please with this institution, but bear in mind, there won't one of us be responsible for one cent. You must bear the whole responsibility of putting up the building and paying the debts and everything else. If you fail, you fail on your own account and not ours." And we took that, and we pledged ourselves to hang together. The conclusion was, the thing couldn't go on if one withdrew, and we then made that pledge. Now, in the darker days before that, all of those men had offers to give up the thing and go elsewhere, and they were flattering offers, too. It need not be stated what those offers were; but two of them were offered places in an eastern college at a good salary, if they would leave here and go there. The other one was offered a pastorate of a church somewhere in eastern Kansas, with something nice besides in another line attached to it, if he would come down there. He didn't go.

Again the town site was pre-empted by the Town Company, independent of the College Company, organized previously, or at the same time, but an independent organization. We put up a little shanty on the town site. We had moved into it, and went up to Ogden and made our pre-emption as a town site to a piece of land we had selected up here on the hill, and then went ahead and put up the building. After having spent twenty-five thousand dollars on that town site, in the college, in private buildings, in a store, and in various other improvements, the Department at Washington having charge threw the whole thing out as a fraud. We had made arrangement with the Land Office, and with the Department at Washington, giving them an explanation of what the whole thing was to be, and they had all agreed to let it go through, although it was not in due form. And word came back one day that the whole thing had been thrown out. Our land warrant was sent back to us. And in the morning while I was teaching school there in the college, a young gentleman from Junction City drove up there with a load of lumber and proceeded to erect a house right under the eaves of the building, not twenty feet away. I looked out of the window and saw what was going on, and went on with my school. When the school was dismissed I went out and spoke to the young man, whom I happened to know, and I reached out my hand and shook hands with him; and he straightened up suddenly and stopped. Before that he hardly noticed me at all. Said he, "I didn't know that, or I wouldn't have come." Said I, "We all worked on that, worked hard, every one of us." Said he, "They told me it was open for pre-emption, and I could have it just as well as not." He turned away and never came back. At noon, headed by Henry Denison, the boys erected a battering ram and knocked the building all to pieces; and that was the end of that matter.

We had a meeting; I was instructed to write a letter to Mark Parrot, our Delegate in Congress, and ask him to pass a bill of relief in Congress, and pass it for our benefit, and I got a letter from him he had done so. So we were allowed to enter that quarter section by paying a land warrant of two thousand dollars for it in our own money for college purposes. That, I guess, is about all I need to say now. The President asked me if I didn't have the records of all this in my possession, and if I wouldn't be willing to put them in the archives. I told him I should be perfectly willing to do so, were it not for the fact that I expected to use them after a while in continuing a history that I took a patent for years ago, but stopped because it was a little early then. The time has about come now to write a book upon these things I have hinted about.

"Science in Farming," Hon. W. D. Street, Oberlin, President of the Board of Regents. Mr. President, ladies, and gentlemen: After sixty days of exhilarating influences of political science in a practical way, several weeks of the humdrum of the farm, and busy preparation for the comfort of the family during the rigors of winter, and repairing sheds and stable for the stock, I have left but little time for the study of scientific farming; much less for making a proper response upon a subject of such importance.

The science of farming is, in my estimation, the basis of all science. The principal elements entering into the same are soil, water, air. Without these we cannot live, and plants cannot grow.

To the farmer of the western part of the State, science must in time play an important part. The failure of the rain-makers to scientifically, or otherwise, demonstrate their ability to make rain, leaves open to the scientist along other lines to enter the field, which is wide indeed. The door stands open; walk in and investigate. You scientists of Kansas here assembled have an opportunity of grand possibilities. You can harness the wind on scientific principles, and use it for the elevation of water by improved methods of pumping; or, generate electricity by wind and store its latent force to be utilized in pumping water for irrigation, or the application of water to the soil. We have the soil and the air, and it now remains for the scientist, or some common and unscientific experimenter, to bring on the water.

The building which we now occupy, and which you assist in dedicating, is the best evidence of the inter-

est and appreciation with which the farmers and people of this State hold scientific researches.

Another feature of farming that is not always kept in sight, is that the farmer occupies the same position to the mass of the people that the science of farming does to all science. They are the foundation of prosperity and stability of the country. Their prosperity means the prosperity of all the people. Without their prosperity the merchant will continue to mark down his goods and sell at ruinous prices until the farmer has an opportunity to mark up his products. This might be elaborated on, but time will not permit.

While we discuss irrigation as a method of increasing production, we must not forget that we are now confronted with the cry of "over-production," which I do not, however, concede exists. I favor the progress of the science of farming, and desire to add my influence in the advancement of that science in this institution. But while we are looking after the science, we must not forget the philosophy of price, which operates as an important factor in the consideration of all questions. While we teach by scientific methods to make two blades of grass grow where only one grew before, we must also teach more economical ways of distribution, and better remuneration for labor, that farming may be lifted to a higher plane; that the farmer may cease to be a drudge, and may have more opportunities for investigation. In such ways this grand and noble occupation may be lifted to the position to which it properly belongs, the highest in the land.

FOR THE ALUMNI.

"The Filial Duties of Graduates," Prof. S. W. Williston, Lawrence, Class of '72. Mr. President: When I received your request to respond, I thought it was worded with the utmost kindness, but after listening to you address the Members of the Academy and friends I didn't know which of the two classes I should be put in, and I finally concluded there must be some other ulterior motive. The fact of it is, you thought if you could get some one of the graduates whose hair was beginning to get a little bit loose about the back of the head, that it might be thought that the institution was getting a little old. The fact is that we are the oldest institution in the State.

While Rev. Marlatt was relating reminiscences I had some reminiscences. And the most vivid one of them was of a very good paddling that I received at the hands of the Rev. Marlatt away back—so far back I am ashamed to tell it. We—for I was one of those fifty-three that began school on that farm up there—began to suspect there were tender feelings going on there between the disengaged Marlatts about that time; because we noticed that sometimes our teacher was pretty cross, and other times he didn't see things that were going on. When following events took place, we understood what it was all about.

However, this is not getting down to business. What I am to talk about is the 'Filial Duties of the Alumnus.' And seriously, it is an important subject to us in this State. Years ago the number of graduates the institution had did not amount to much, because there weren't enough of us to make it of importance enough to talk about. There had been seven that had preceded me in any institution. I believe Baker had sent some out before. But in our own institution in '68 there were two or three, about four or five in '71, and the next class the small number of three, of which I was one. But the number has increased remarkably and very rapidly. The Agricultural College with, I don't know how many, running up in the hundreds. The State University with as many more hundreds. And the Normal School that turns them out by the score. And all these other institutions, lesser and greater, according to their facilities and positions; until we have now in this State a large crowd of Kansas Alumni, belonging to the different institutions, who can justly and honestly feel proud of their Alma Mater.

I know, as every year goes by, I feel more and more that it was a privilege to attend school in Kansas in those days away back in the sixties and early seventies, when everything was new. It was a privilege that I acknowledge and feel more proud of every day that I live, that I am a graduate of the Kansas Agricultural College. But there does rest with us, as I have before expressed, with each and all of us, duties we owe to the institutions from which we took our degree. We owe our influence in the State, and our influence upon the Legislators, in making them recognize what these institutions are. Mention and mention the work of our institutions; in what way the institution is growing. They perhaps think that Professor Georgeson raises fat hogs, and raises a little corn, but they do not recognize the instruction that is being given to our country sons and daughters throughout the State. Neither do they appreciate what is being done at the University, or any of the institutions. Any one who visits these institutions goes away the friend of the institution.

This is where we can help along our Alma Mater, and it is a duty in that respect that we owe to our institutions. The attention of the State, the attention of the Legislators, must be drawn to what these institutions are, what they are doing, and what they hope to do; what their needs, and what their demands are.

"The Duties of the Graduate to His Fellowmen," Prof. F. A. Waugh, Stillwater, Okla., class of '91. Mr. President and friends: You are—all of you—college students for tonight, at any rate, and you all know the feelings that apply to the under-graduate department, and how they grow in the mind of the graduate after he leaves the college. You will appreci-

(Continued on page 72.)

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DEDICATED.

(Continued from page 71.)

ate what this feeling was,—you have all felt it more or less. You know how in the days before graduation the student tremblingly sits down to write an oration; and anyhow you know that when he comes to name the oration, the chances are nine to one that the subject properly stated is, "The Graduate's Duty to His Fellow Man." I have recited that oration frequently.

But from a different standpoint I would like to speak on the same subject tonight. Now, when a student steps out of college and finds himself face to face with duties, and with problems which demand his earnest attention, his first duty is to himself. He finds it an important and imperative duty to find a job. This duty must be first attended to. Now, there are a great many questions that arise at this point, and a great many things to be determined; how the young man shall meet this duty. Suppose we take a young man from college. He is met by numerous circumstances which he had not foreseen. And those circumstances determine for him what he shall do in response to this duty which confronts him. But if he is a good alumnus, as all our alumni are, he finds a job, and that duty is met.

His next duty to his fellow man is toward his fellow woman. In this College, as in every well-regulated college, there are a large number of sisters, our sisters and other fellows' sisters, and they graduate with us. Now the same duty confronts them; viz., to find a job; and this young man's second duty is to furnish a permanent situation for some one of these young ladies. That, gentlemen, is the right thing to do; and I practice what I preach.

The next duty of the graduate is to his mother. His father and mother have been at home, working for him, helping him, doing everything they could, his mother carefully mending his clothes each year, and sending him back, and now, more than ever, at home earnestly praying for him, and expecting everything of him. He must not disappoint his mother. He owes to her a duty now.

There are other duties to other people. There are people all about us to whom we owe numerous duties. And this is such a large field that one cannot speak of it except in generalities, which are too glittering for me to express, and too hard of comprehension to be of any use to us now. There is no need to cover that field, but let me suggest that the alumnus of a college does have numerous and important and weighty responsibilities toward his fellow men, and all of them, whether he knows them or not. Our friend, Mr. Coburn, will soon present to us the subject of "Science for the People." There is science for the people, and education for the people; and we who have had the more thorough training of the college course and college halls, must in every possible way, take these ideas, these principles, to the people who have not these privileges. Now, there is not much to add, but in my brief stay outside of the College walls I have found the people ready to appreciate what I could do to help them, and ready to show me what opportunities I have missed to learn more yet, which I might have helped them with. I might go further, and tell of other duties of the alumnus,—the graduate of the College,—of his duties to his Creator, God; but this is where my speech stops, and I am glad, possibly you are, that I am done.

FOR EDUCATION.

"*Evolution in Science Teaching*," Chancellor F. H. Snow, of the State University. Mr. President and friends and members of the Agricultural College: I am very glad to add my congratulations tonight upon the completion and occupation of this most creditable and serviceable building. It has been the good fortune of each of the three State educational institutions during the past biennial to obtain and to spend appropriations for buildings. And we may congratulate the State that these notable accessions to our educational equipment have been added. And we may hope that my friend, Brother Knipe, will succeed in obtaining another appropriation for another building for this College during the succeeding winter. I hope we may do the same for the University.

The "Evolution of Science Teaching" implies a slow process. But we have not time for lengthy discussion, and I shall try to limit my remarks to a very few minutes. Kansas furnishes a great field for rapid evolution. In no other State in the Union, perhaps, has there been so rapid an educational growth as has been witnessed in the State of Kansas. I had the pleasure of being connected with the Faculty of the University at its beginning. That Faculty consisted of three members, one to represent mathematics and the natural sciences. I was the humble individual selected for that purpose. The Faculty then numbered three; the Faculty today numbers fifty-seven. And the proportion has been maintained, covering the same great field, the mathematics and natural science attempted to be covered by myself in those early days; and we now have eighteen men teaching science in the University in all its different departments. And we have here today as members of this Academy, taking part in its program, eleven members of the Faculty.

The great progress that has been made in scientific teaching has resulted from the great discoveries that have been made in science. When I was a senior in Williams College, the inroads made by scientific thought upon the old established methods were looked upon, or viewed with alarm. It was thought to be a very dangerous thing to have a Professor of Geology who should pretend that this earth of ours

had occupied more than six days of twenty-four hours each in the making; but now all theologians, philosophers, and scientific investigators unite in the belief that millions of years have elapsed since this world was without form and void.

Evolution is a slow process. Science is a modern department of truth, but it is just as much a part of truth as any other department. Science means to know. To know is to have some basis for our knowledge. We cannot know without having a basis, and having that, we advance through the whole department, the whole world of education. We find today that the philosopher, the teacher of mental science, applies scientific methods to his study of the mind. We had a visit at the University last February from one of the great masters of psychology, Professor Münsterberg, of a German University. He is spending three years in this country as a Professor in Harvard University, having had permission from the German Government on the condition that he write a book. This Professor has been induced to take a professorship in Harvard University because President Eliot secured an appropriation to enable him to fit up a psychological laboratory. What would our fathers have thought of that? We have but to go to Harvard to see a laboratory that has been constructed for the purpose of seeing the facts—the literal and physical facts—of the brain and nerves which underlie all the phenomena of conscious life. So in history we are adopting the methods of science. We have a beautiful building at Lawrence, and in that building the students of history have a special library in which the books pertaining to history are collected. And there the students study the original authorities. They are not set to work as we were thirty years ago to recite ten pages per diem from memory from Weber's Outlines of History, the Professor nodding as we went on and expressing his approval of our attempts. There is a library, and there they study history from the great sources,—not simply one text-book, one authority, but all authorities. They exercise their own judgment in weighing the value of those authorities. In short, they adopt a scientific method.

So everywhere we have the scientific method. This method has been slowly evolved. Botany used to be regarded only as a matter of memory. I know a Professor in Kansas who persistently maintained that the proper way to teach botany was to memorize all those terms which go to indicate the forms of leaves and roots, without any reference to the plants themselves. He didn't want any plants in his lecture room. He wanted the student to have an exercise of the mind in remembering the difference between the various descriptions of plants, and the forms of leaves, roots, and other parts of the plant, without any reference to the plants themselves, as the great naturalist Buffon, without ever seeing the animal, one that perhaps no one else had ever seen, would sit down in his study and elaborate a description of the something which it was desired to present.

Linnaeus was the father of botany, but he gave his attention to the many kinds of plants that exist upon the globe. He has been called the modern Adam because he named the plants of the globe. It was considered to be the principal point of scientific teaching to familiarize the pupil with the name of the plant and of the family; and if you had the name, you had the science. To study botany was to analyze a plant and trace it down to the end of the key, until you got its name. That's very good as far as it goes. But when the great Agassiz came upon the stage of scientific education, he taught his pupils to disregard the name. It was the least important part. The important thing was to know the animal, to study the animal. And so, he gave his pupils specimens of fishes, or significant parts, and the student was told to study the specimen. If in twenty-four hours the student thought he knew it all, the Professor would show the student he didn't know anything. And so after a month or two, the student would begin to know something about the specimen, and after a few months the student would know more about the specimen than Agassiz himself knew. That was the way the method of teaching progressed.

I have noticed the same fact in our Academy of Science. While in the early days we were engaged in identifying plants and animals by name, we now have an investigation with reference to some particular of the animal, and we are getting at a broader and truer view of science. So, I may say, this process of development in science teaching has been going on until we are gradually arriving at a method of study which shall include not only fundamental facts, but all principles. We are coming to study the Bible from a scientific standpoint, to see something in regard to the character of the writers of the books of the Bible. Some of the biblical scholars are finding out that the book of Genesis was probably written by at least three different writers. We are getting at a scientific basis of biblical philosophy, which will be better than the old philosophy, which accepted everything literally as found in King James' version. We are lifting the Bible up, finding out the true spirit and inspiration of the men who wrote those books. The truths taught are just as valid as ever, whether expressed by one man, or by three men, or by a hundred men. The scientific investigators will teach us how to teach those truths, and how to use them to the welfare of the race.

And so I herald the day when all knowledge has to be subject to scientific method. I hope this temple of learning will prove to be the means of increasing your scientific investigation in the true spirit of all scientific investigations, so that you will be able to fill all these laboratories, and this library and museum with many important additions to the true knowledge which shall help the men and women of the State of Kansas, which shall enable them to better perform their work on the farm and in the work-shops, and everywhere, in every department of life.

(Continued on page 74)

Calendar.

1894-95.

Fall Term—September 13th to December 21st.
Winter Term—January 8th to March 29th.
Spring Term—April 1st to June 12th.
June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Elsie Crump has resigned her place in College Hill school to complete the course with the Class of '95.

The arranging and mounting of plants for the Kansas herbarium has been in progress during vacation.

The animals and floor cases have been removed from the old quarters in the Armory to the rooms set apart for them in Science Hall.

Prof. Failyer, Mrs. Kedzie, Prof. Mason, and Mr. Burtis take part in the program of the State Board of Agriculture this week.

Assistant Sears returned on Thursday from Tesco, Ottawa County, where he had been spending the holidays with his parents.

Lieut. J. F. Morrison, formerly Professor of Military Science and Tactics at this institution, is now stationed at Fort Leavenworth.

Secy. Graham had a long, hard trip last week in removing his father's remains from the cemetery at Dighton, Kansas, to the family burying ground at Abingdon, Illinois, where his mother now lives.

About twenty industrious Third-years have during vacation been working on maps, taking in the south half of the College grounds. On the opening of the term many had completed the task.

The Botanical Department has been busy making preparations for the large class in structural botany. There are about sixty members, and work is done both in the forenoon and afternoon.

Mr. Henry W. Brooks, foreman of our Iron Shops, has taken unto himself a wife in the person of Miss Edith Harrison. The ceremony was performed at the home of the bride in Ottawa, New Year's Day. Mr. and Mrs. Brooks have apartments at Rev. R. D. Parker's.

The Farm Department this week made several sales of stock, among which was a young Shorthorn bull to Mr. Engle of Wakefield; a lot of seven fat hogs at four cents per pound, netting \$92; and for three barren cows they received three and one-fourth cents per pound, or \$130 for the three.

An experiment in feeding hogs is now in progress at the College barn. There are used in the experiment twelve hogs, separated into three lots of four each. These lots are fed on ground corn, ground wheat, and ground Kaffir corn, respectively, the object being to ascertain the relative value of these feeds.

The members of the Faculty were pleased to greet yesterday President Alvord of Oklahoma Agricultural College, who spent the forenoon "taking notes"—mental—of the many good things an observant visitor sees here. Major Alvord has been connected with the Agricultural Colleges of Massachusetts and Maryland, and was called to Oklahoma last summer. He regretted much that limited time prevented a visit to Fort Riley, where he was in command in 1867.

The College enjoyed a visit Tuesday and Wednesday from two representatives of our wide-awake sister institution, the Michigan Agricultural College—Mr. C. J. Monroe, of New Haven, a Regent of the College, and Mr. Taft, Professor of Horticulture, both en route to California. A quite thorough inspection of buildings and equipments interested them Monday forenoon after Prof. Taft's greeting in chapel. Prof. Taft is the author of a recent work on "Greenhouse Construction," and has in press a volume on "Greenhouse Management."

"Interest as One of the Means of Distributing Wealth" was the subject of the lecture yesterday afternoon. Prof. Will said: Those who have made a special study of rent see little in the interest question, yet it is of great importance. The question of interest has received the attention of statesmen and philosophers in all ages, and interest has been condemned by most of them. At present the debtor class is greatly burdened in the West. According to Mulhall's Dictionary of Statistics, the creditor class is growing rapidly in wealth and power. There are definitions of interest current among the people, but the one which seems most fully to meet the conditions is that interest is a payment for the use of capital. If a high rate is paid for the use of capital in a case where there is great risk of losing the principal, a large part of the sum paid is really insurance. Those who have investigated this subject the most deeply, though they may defend interest payment, nevertheless declare that interest is a tribute to idleness. If this is true, why does it exist? Turgot says, a man may invest his money in either land or capital, and as land brings rent, capital should also

yield a return. Ricards says that if the owner of capital were not paid for the use of it, he would not allow it to be used. Henry George claims that a man may invest in property which increases without the application of labor, or in that which does not so increase; therefore, he should be paid for the use of his capital. The cause, then, of interest is the spontaneous increase, the "unearned increment" of growing things. Böhm Bawerk explains interest on the ground that one dollar in the hand is worth more than the prospect of getting the same dollar at some future time. But interest may be explained in the same way as rent of land. Valuable capital in the hands of a man who can use it is a positive advantage to the possessor, an advantage which he will not relinquish without compensation. As rent belongs to land, interest inheres in capital. Recognizing the inevitableness of interest, the question remains, to whom should it belong? Should the lender who does no work have it? Or should society tax it into the treasury? Should society support a parasitic class? Compare the social organism with the human body. In the body, the member which stops work receives no more food and soon withers. Is it that way in society?

GRADUATES AND FORMER STUDENTS.

H. L. Pellett, '93, is here for post-graduate study.

L. O. Piper, First-year in 1885-6, visited New Year's Day at the College.

R. J. Brock, '91, is again chosen City Attorney by the Manhattan City Council.

G. E. Hopper, '85, superintendent of waterworks at Arkansas City, spent one day last week at the College.

S. B. Johnson, Third-year in 1892-3, is clerking at Olivet, but plans further study when opportunity offers.

A. K. Barnes, Second-year in 1891-2, teaching at present near Templin, Kas., was a caller at College last week. He plans to return to College and complete the course next year.

Ruth A. Stokes, '92, was, at a meeting of the Board of Regents held December 28th, elected Assistant in Household Economy. An experience of two years as student assistant in the department qualifies her for the work.

A recent letter from J. B. Brown, '87, announces the death, from diphtheria on December 11th last, of his little son, Leland. Mr. Brown is Superintendent of the Ponca Indian School at Ponca Agency, Ok. His many friends hereabouts will sympathize with him in the great loss of an only child.

"Dr. LaFayette Z. Coman, Miss Rowena J. Whaley, married, Thursday, December 27, 1894, Denver, Colo.," is the way a certain beautifully printed card reads. Thus have we lost another of our girls. The new family will make their home at Boulder, Colo., where it is the earnest hope of hosts of friends that each may never have anything more uncomely to face in this world than the face across the table.

C. D. Pratt, '85, has succumbed to the darts of cupid at last. He has met the little god and he is "his'n." The cards say that his surrender occurred at the home of the bride, Miss Carrie B. Winants of Wichita, on the evening of January 9th. May the long path that these two shall tread be ever strewn with the sunshine of happiness and the blossoms of prosperity is the wish of many friends here.

The Weather for December, 1894.

Temperature.—The mean temperature was 35.15°, which is 5.23° above the normal. There have been twenty-eight colder and seven warmer Decembers since 1858, the coldest being in 1876, when the mean was 20.29°, and the warmest in 1877, when it was 41.68°. The maximum temperature was 73°, on the 7th; the minimum, -4°, on the 28th,—a monthly range of 77°. The greatest daily range of the thermometer was 43°, on the 5th; the least, 6°, on the 10th, 15th, and 25th. The warmest day was the 20th, with a mean of 58.50°; the coldest, the 27th, the mean being 3.5°. The mean temperature at 7 A.M. was 27.35°; at 2 P.M., 46.06°; at 9 P.M., 33.58°. The mean of the maximum thermometer was 48.68°; of the minimum, 24.48°; the mean of these two being 36.58°.

Barometer.—The mean pressure for the month was 29.938 inches, which is .03 inch above normal. The maximum was 29.603 inches, at 9 P.M. on the 27th; the minimum, 28.294 inches, at 2 P.M. on the 15th,—a monthly range of 1.309 inches. The mean at 7 A.M. was 28.964 inches; at 2 P.M., 28.901 inches; at 9 P.M., 28.95 inches.

Cloudiness.—The per cent of cloudiness for the month was 30.64, which is twelve per cent below normal. The per cent of cloudiness at 7 A.M. was 34; at 2 P.M., 30; at 9 P.M., 27. Three days—the 10th, 11th, and 25th,—were entirely cloudy, one—the 9th—was five-sixths cloudy, four were two-thirds cloudy, two were one-half cloudy, four were one-third cloudy, four were one-sixth cloudy, and thirteen were cloudless.

Precipitation.—The total precipitation for the month was .375 inch, which is .49 inch below normal. Of this .075 fell in the form of snow—the first of the season—on the night of the 10th, the ground being covered by about a quarter of an inch on the morning of the 11th. It quickly disappeared. On the 15th a slow rain fell all day, measuring .30 inch. The total rainfall for the year is 20.89 inches, which is 9.12 inches below the average.

Wind.—The wind was from the southwest 24 times;

north, 19 times; south, 17 times; northeast, 9 times; northwest, 7 times; east, 6 times; southeast 6 times; and west 5 times. The total run of wind for the month was 8438 miles. This gives a mean daily velocity of 272.2 miles and a mean hourly velocity of 11.3 miles. The highest daily velocity was 557 miles, on the 15th; the lowest, 92 miles, on the 22nd. The highest hourly velocity was 34, on the 6th, from noon to one P.M., and also from two to three P.M.

The following tables give a comparison with preceding Decembers:—

December.	Number of days.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858....	3	1.11	...	...	25.96	56	-16	...	...	...
1859....	1	.20	38	NW	20.90	62	-8	...	...	...
1860....	3	.50	30	NW	32.43	52	18	...	...	...
1861....	3	1.00	28	S	32.19	62	8	...	...	...
1862....	3	2.25	35	SW	39.50	65	14	...	...	...
1863....	4	2.17	31	NW	27.93	59	-13	...	...	...
1864....	4	1.11	61	NW	27.07	58	-6	...	...	...
1865....	4	2.02	60	N	28.89	57	4	...	...	...
1866....	4	.51	46	NW	35.44	62	15	...	...	...
1867....	2	.81	53	SW	24.85	57	-16	...	...	...
1868....	3	.43	30	NW	30.05	58	-3	28.82	29.20	28.45
1869....	4	.16	46	SW	29.93	63	-11	...	...	...
1870....	4	.45	39	SW	24.17	53	-6	...	...	...
1871....	1	.35	47	S	21.02	60	-11	...	...	...
1872....	3	.95	60	SW	28.71	65	5	28.74	29.26	28.29
1873....	4	1.67	48	SW	31.66	58	0	28.82	29.32	28.28
1874....	3	.78	51	SW	38.22	72	4	28.70	29.11	28.20
1875....	2	.50	41	SW	20.29	69	-11	28.97	29.50	28.43
1876....	1	1.55	52	SW	41.68	67	13	28.81	29.20	28.30
1877....	4	.91	50	SW	21.35	57	-7	28.89	29.33	28.47
1878....	2	.62	45	NW	24.75	56	-10	28.60	29.12	27.97
1879....	1	.28	57	SW	24.40	65	-16	28.69	29.21	27.92
1880....	3	.53	57	SW	38.48	65	16	28.73	29.04	28.29
1881....	3	.44	58	NW	29.59	62	-7	28.72	29.49	28.10
1882....	2	.27	51	SW	33.04	66	2	28.68	29.14	27.98
1883....	2	.33	50	NE	21.70	57	-7	28.58	28.95	28.10
1884....	4	1.09	47	S	33.03	60	-4	28.09	29.41	28.56
1885....	2	1.58	40	NE	24.34	62	-5	29.05	29.66	28.61
1886....	3	.79	39	N	26.09	56	-9	29.07	29.88	28.43
1887....	3	1.22	31	N	33.39	64	10	29.67	29.46	28.47
1888....	2	.62	25	SW	41.50	75	0	28.90	29.40	28.11
1889....	2	.18	28	SW	33.21	72	3	29.01	29.47	28.37
1890....	4	1.09	24	SW	37.97	67	5	28.82	29.48	28.18
1891....	7	1.75	44	SW	24.02	67	-9	28.95	29.39	28.45
1892....	4	.70	24	SW	34.13	68	4	28.94	29.49	28.45
1893....	2	.37	31	SW	35.15	73	-4	28.94	29.60	28.29
1894....	2	.37	31	SW	35.15	73	-4	28.94	29.60	28.29
Sums	108	30.93	1510	...	1077.0	2250	-66	663.59	675.11	650.50
Means	3	.86	43	SW	29.92	63	-2	28.86	29.35	28.28

WIND RECORD.

December.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly.	Maximum Hourly.
1889....	8046	259.55	576	51	10.81	47
1890....	6414	206.90	431	82	8.62	32
1891....	10030	323.55	632	65	13.48	48
1892....	5426	175.03	449	69	7.29	25
1893....	7903	254.93	466	65	10.62	37
1894....	8438	272.20	557	92	11.30	34
Sums	46257	1492.16	3111	424	62.12	213
Means	7709	248.69	518	71	10.35	36

C. M. BREES, Observer.

FARMERS' INSTITUTES.

Held Under the Auspices of the Agricultural College.

Institutes will be held at the places and dates as stated below, and the College will be represented at these institutes by the members of the Faculty named;—

Gardner, Johnson County, January 17 and 18; Professors Failyer and Walters appointed.

Hiawatha, Brown County, January 24, 25, and 26; Professors Graham and Georgeson appointed.

Garden City, Finney County, January 29, 30, and 31; Professors Mason and Hitchcock and Mr. F. W. Dunn appointed.

Lakin, Kearney County, January 31 and February 1; Professors Hitchcock and Mason and F. W. Dunn appointed.

Stockton, Rooks County, January 31 and February 1; Professors Mayo and Will appointed.

Russell, Russell County, February 7 and 8; Mrs. Kedzie and Professor Mason appointed.

Peabody, Marion County, February 14 and 15; Professors Popenoe and Walters appointed.

Haven, Reno County, February 21 and 22; Professor Mayo and Mr. Burtis appointed.

Cherryvale, Montgomery County, February 21 and 22; Professors Popenoe and Georgeson appointed.

Lack of conveniences is a source of expense upon many farms. A little expense would bring water to the barn, yet the cattle, horses and other stock brave all kinds of winter weather to get to the distant spring, or if the farmer has to bring the water by bucketfuls he is too apt to judge of the animals' want of water by the state of his own feelings. If he is very tired he will say to "Old Bill," who, perhaps, has been doing a faithful day's work hauling stone from some of the fields. "Oh pshaw, one bucketful is enough for any horse." Consequently "Old Bill" gets about half what he actually desires and needs. Conveniences could be introduced in many barns that would lessen labor about one-half and in due proportion economize time spent in the barn caring for the stock—a very important consideration in extreme cold weather.—*Baltimore Sun.*

DEDICATED.

(Continued from page 72.)

"Science and the Common People," Hon. F. D. Coburn, Topeka, Secretary State Board of Agriculture:

What cannot art and industry perform
When science plans the progress of their toil.

We, of the common people, yet every one a sovereign, are here to dedicate for posterity and to science a new temple. This edifice and equipment represent not only a share from the savings of the common people, but as well the story of their aspirations their striving to the stars, even through difficulties.

Speaking from the standpoint of one of these common people I am inclined to regard many such institutions as too near the stars and too remote in aim and purpose from our work-a-day world and those whom we are pleased to call the "masses;" who feel that they have not even a speaking acquaintance, much less a familiar, ever-present kindly touch from a beneficence their economies have made possible. They feel that "science" is something that pertains to matters beyond their reach or ken, and belonging to colleges and solemn-visaged professors who exhale frost and whose communion is with fossils and mummies; who delve in the dust of antiquity or give their time to discovering the topography and geography of Mars, or verifying or confuting the Darwinian conclusion that "man is descended from a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits."

The canals of Mars are interesting to read of, but they cannot be transplanted to the plains of Kansas in time to benefit us, even through the glorious inscrutability of science. It may be important to determine with mathematical accuracy the exact significance of the watery sign of Aquarius, but far more important is it to know what crop to cultivate when all signs fail, as they frequently do in Kansas. The name of the original North American Indian may have been "Bone Pounder," but the definite ascertainment of this adds nothing to our knowledge of soils, of fertilization, or the best rotation.

The periphery of the earth may constantly be stretching itself in the direction of the poles, but a busy public has no fears of the ultimate squeeze, and in the meantime would like to ascertain the relative merits of corn and wheat as applied to the production of Percherons, pork, and poultry.

The scientist tells us that in 3000 years the water will wear away the rock over which the cataract of Niagara flows, and we would not give him a penny for his deduction, while he who can tell us definitely how much water can be taken from any given hole in the ground, the minimum cost at which it can be done, and the maximum of alfalfa or onions it will assure when judiciously commingled with Kansas grit, will have lived to a purpose and deserve a monument.

The science taught here I would have pertain to the living present; to bettering the conditions of not only the men and women of generations yet unborn but our own generation; a help to more wholesome lives and living; more comforts with less sacrifice of strength and health; a better knowledge of nature's secrets which affect favorably or unfavorably us and ours; a helping to attain a maximum of good with a minimum of evil; to glorifying the Great Master of Science by ministering to humanity, fashioned in His own divine image.

"Trace science then, with modesty thy guide;
First strip off all her equipage of pride;
Deduct what is but vanity, or dress,
Or learning's luxury, or idleness;
Or tricks to show the stretch of human brain,
Mere curious pleasure or ingenious pain;
Then see how little the remaining sum
Which served the past, and must the times to come."

FOR THE STATE.

"The State the Supporter of Science," Ex-Gov. Geo. T. Anthony, Ottawa, Mr. President and Gentlemen: I am under profound embarrassment at this time, whether to say anything or to refuse to say anything. I left my family in Chicago on the night before last, stating my purpose, sir, to respond to your invitation to come to this banquet; and I am more bold in declaring the supremacy and control over me than my friend Knipe was. My wife said to me before I started, "Going to a banquet, are you? Ah, ha! Going to a banquet?" She says, "Take this slip of paper, and after you get away, and before you go to the banquet, please read it: it may save you some mortification, and the banquet some suffering." And she gave me a slip of paper, which I carefully laid away, as I always do,—preserve everything given under such orders. And it is this bit of a story: That on one day a parrot stood at the open door of his cage and saw a dog passing. And the parrot said, "Sic em! Sic em!" The dog looked around and saw nothing but the bird, and tackled it, and a severe fight ensued, in which the parrot suffered the most, and was getting the worst of it, until it got possession of itself, or found its mind, and said, "Get out! Get out!" And the dog obeyed and "Got out." The parrot gathered itself together, one wing lopped down, a toe off, tail feathers pulled out, a deplorable looking bird; and casting its eye around said, "Polly! Polly! you talk too much." Now, had I better say anything under the circumstances? But fortunately my mistress is farther away from me than Oklahoma. She is in Chicago. And I am going to venture to talk a few moments.

"The State of Kansas the patron of science." Now, Mr. President, it is impossible for me in a brief toast, here or elsewhere, to respond for the State of Kansas, because my pride is wrapped up in it. My devotion for it is so extreme that it is hardly possible for me to keep within the limits of either time or propriety,

perhaps. Because, gentlemen and ladies, let me say to you here, that Kansas is without a peer in any aggregation of civilization that has been brought together in the history of the human race.

It has been my fortune at banquet tables or in great assembly halls, in Philadelphia, in Baltimore, in Washington, and in Boston, and in Portland, all along that coast,—it has been my fortune to be called to face audiences limited like this, or extending as far as the vision almost could reach. And I have never at any time, in any place, stood before an audience feeling my littleness, my inability to say anything to them, which I had a right to say, as I have always felt in the presence of a Kansas audience. Now you may not think that I am sincere in this, but I want to say to you that which is the truth; that an assemblage in the State of Kansas is the cleanest cut and purest presentation of civilization that can be found in the United States of America or upon the globe. You wanted I should speak for Kansas, did you not?

Now this, to me, was a surprise, when I first came from the Empire State of New York. Then I supposed that to come to Kansas was to find a semi-civilized people, a set of adventurers, and a crude civilization. I came with that impression, as many came thirty years ago, and when I came to find what I did here, away out upon the homestead regions of Kansas, when I have seen in this green expanse the school houses, the influence of which was greater than the aggregate influence of every domicile in the entire school district, it was a surprise to me. But when I came to reflect of what Kansas was made, and how it came to be, then I found a philosophical reason for it. In other words, when I applied a little science to it, I discovered why it was we had this civilization in Kansas.

Kansas was born of an idea. It was not a simple aggregation that came for the sole purpose of making money, but it was men who came with their bibles and came with refined ideas of right and duty, with the declaration or agreement to make of Kansas such a State as it was designed to be. It was gradually filled by men with a supreme purpose.

That is what brought the first civilization to the plains of Kansas, as the great arena, whereon should be finally fought to the bitterest end the great struggle between human liberty and human slavery. It brought a set of people here who lived upon a higher plane of intellectual, moral, and religious thought than were ever gathered together by a single purpose in the history of human aggregations. Men that were once rich came here to gain that which they had lost in the ventures of life elsewhere, came sharpened in ambition and determination to regain lost fortunes that had been placed beyond their control elsewhere. They were a sharper body of men than ordinary.

Now, let me, just because I think it is a part of what was occurring, for a moment look into the past of a family in New York or Pennsylvania. Suppose that one of the boys should say "Father, I have decided to leave home. I am going away. I am going where the field is wider and the opportunities greater than they are here." "Where are you going?" "To Kansas." And the mother pleads with him not to sever the family relation, but he is determined, and says, "I am going," and they know they cannot resist. May be each one of the boys in that family might have been contented as long as he could have enough of his mother's pies and puddings, thinking he had enough of the world. It was the energetic, ambitious, and determined young man who was led to sever the home ties and dear relations with his family, and reach out to possibilities greater than he had in the confines of the family circle.

Now, suppose, again, it to be the father who makes the suggestion. So he says, "Wife, I have been thinking this over. We are limited here. We are raising this family, and it is our duty to do our best for them. Now, I have been thinking we had better go where we can have a broader field. John is almost old enough, he can have a section, and we will gather around about us enough of acreage, so we can assemble our families there, and have a farm of our own together, each having room for the full swing of his energies and possibilities." One wife would say, "Nonsense!", perhaps, "Do you suppose I am going to leave my society and church? Do you suppose I am going away with these children, and take them from advantages of colleges and high schools, and go away out there to be scalped by the Indians on those plains of Kansas? No, I never would think of it." Another wife would say, "Yes John, I am glad you made the suggestion. I had felt hampered here, but when we get there we will be equal with our neighbors. The equality will be felt and more genuine there than here. I am in favor of going. Let us get our affairs together, and go as soon as possible." The difference between that mother and the other one is world wide in themselves, but the difference in them which is transferred to posterity in character is still greater, even.

So, it was the brave, it was the energetic, young men and young women that left the civilized and enlightened circles that they supposed had no equals anywhere else; broke away from church and society and from all those allurements, and came out here to people Kansas. It was the purest in purpose, the most excellent in all of the true elements of man's greatness, that here gathered together from the oldest civilization of the United States of America to make this enlightenment upon the plains of Kansas. And this is not only exhibited in the persons of the fathers and mothers, but it is being exhibited among the sons and daughters of Kansas, and will continue to be for generations and generations to come.

So then, Kansas has never failed to respond to its duty and its obligation to science, whether that was the practical, applied science, or whether it was the school of theoretical science and intellectual science.

I differ a little with the last gentleman on the floor. I do not believe that in admiring the moon in its

grandeur, we should not acknowledge the beauty of it, because we cannot use it for a cart wheel. I don't believe as we watch the sun in the zenith of its splendor, that we should decry it as a waste of fuel. I don't believe the glittering stars that gem the heavens at night are to be despised in study or never admired, because we can't take them down and give them to our children to save us ten cents for a plaything for them. It is never true that science must be studied because it is a science, because it is something grand and better, and above the minds of men; nor is it true that the study of science and its support by the treasury of the State is to be limited to that which we can turn into potatoes or corn or taxes.

Kansas has an attachment to science, it is devoted to science to the extent that it wants that science applied to all the rounds of daily life, to lift up every profession in its borders and within the necessity of those who are engaged in it, and it also wants beyond this. Let me say to Professor Snow, it wants an institution in this State which shall occupy a place in the great field of learning so high that all the world shall point to it and say "That is the University of Kansas." It wants that as much as it wants this Agricultural College that sends out upon the farm and into the shops men who can make use of scientific knowledge, in every way to make their vocation elevating and profitable. Such, then, is its devotion to science—not in any narrow way, or for the limited purpose of seeing how much money can be coined out of science. It is for the science in its grandest possibilities in elevating the intellect and brain, furnishing food for immortal beings, as well to the brain as to the mouth.

Then, I say, Kansas does need the stimulant of science: this very building, this beautiful building, you are consecrating to science tonight, is an evidence of it. But I could bring up facts which would bring a blush to the face of every man who has soiled the character of my State in the past, if I would.

The College has constructed these buildings here since I came to Kansas, and I recall some of those early days when it used to be in the old building, and when the students threw the ashes out of the window that was closest by. Out of that, in twenty-five years, has grown this beautiful institution. This institution, which it is no flattery to say, is the peer today of any other institution of its kind. Created and endowed by a wise act of Congress, your endowment has been used with more of wisdom and prudence than any other endowment in the United States of America. And here you have caught the idea that was in the minds of the men who framed the act that was introduced into the Congress of the United States, and subsequently in the Senate enacted into law.

Now, the State of Kansas—I am not a scholarly man, but I believe the legend on our great seal is "Up to the stars through difficulties"—Kansas has been going up to the stars, and at times has grappled with great difficulties in doing it. In the brief time I have been a resident of Kansas, we have been lifted to the very keystone in the arch of prosperity, and we have stood in the moist and cold slough of adversity and seemed in the very depths of despair; but we have been climbing up all the time. And, I believe, I prove it now in calling your attention to this building. While in almost every state a public building is an evidence of a public debt, here in Kansas we have constructed our educational institutions, our buildings, and paid for them. We have constructed abodes for science, halls that are worthy of the State, and at an expense of six million five hundred thousand dollars. It has been taken out of the pockets of the people cheerfully and contributed to their instruction without the creation of a debt of a single dollar. Only two hundred and fifty-six thousand dollars stands against the State of Kansas in her whole history on account of the construction of her public buildings. In that time twenty-three private educational institutions have sprung up. They are domiciled in buildings of their own ownership, and are in possession of property aggregating several millions of money, all of which has been paid from the pockets of the people. So we have this practical evidence, Mr. President, that the State is the patron of Science.

I have listened with no little interest to the relation of statesmanlike cunning that has been used to get this building and appropriation, and all that. I want to say to you that while we may all have difficulty because the institutions of Kansas come to Topeka each pitted against all the rest in the interest of themselves, you make these appropriations harder than they would be if you would pool your issues before you go there. I want to say to you that the inspiration that has made these appropriations possible, that has made these agricultural appropriations so liberal, is to be depended upon.

"The State and the Agricultural College," Ex-Governor George W. Glick, Atchison. Looking over your program, I see my good friend Sutton is down for a talk here for the whole world. Now, if I should say all the good things that ought to be said for Kansas, all the good things that could be said of Kansas, and of her people, where would Judge Sutton come in? But it is too late, Mr. President, to take up the time of the good people here in talking much about Kansas. My mind is not running in that direction just now. But it is running in the direction of something of the past history of this institution. My good old friend Marlatt—and he is the only one here tonight that I knew when I first came to Kansas, about thirty-six years ago—will recollect something about the organization of the State Agricultural College and of the State University. We all had our joint interests at that time. Some of us were inclined to be a little greedy. We had in our constitution provision made for a University, and Congress gave Kansas seventy sections of land to endow it. In '62,

Congress made donations of, I believe, thirty thousand acres of land for each Senator and member of Congress that any of the States had, and by that Kansas got about ninety thousand acres of land.

In the winter of '63, our friends from Lawrence, that was before the days of Professor Snow—came up there with a bill to take the seventy sections of land for a University, and the ninety thousand acres of land for the Agricultural College, to build the University at Lawrence, and all in one bill. Well, our friends were down from Manhattan. And they were offering to the State of Kansas Bluemont College, I believe they called it then. And they wanted the University and the Agricultural College to go to Bluemont College.

Well, there was a very bitter fight going on during all that time, and Emporia came in. She had nothing to offer, nothing to give, but she wanted a College, the University or the Agricultural College—she did not care which. Well, there were quite a number of us in the Legislature that were indifferent. We thought it ought to be divided around. But the fight went on, and finally when it came to a vote on a square fight between Manhattan and Lawrence, the vote stood that Lawrence should have the University and the seventy sections of land, and Manhattan should have the Agricultural College and the ninety thousand acres of land.

There was no bill prepared to provide for the organization of the College, but the friends hustled around and we worked one night and got it all fixed, and the bills were introduced. And there was a gentleman representing this College, I do not recall his name. He could not say a word when he got on his feet. And the friends of Manhattan wanted me to take charge of the bill. I said, "No, I will help you, but I do not want to take any hand in the fight between Lawrence and Manhattan." So in the morning they came in with a bill all ready for the donation of the ninety thousand acres to the College.

Lawrence had got the University. She was out of the fight, and did not care. She stood by and saw Emporia make a fight against Manhattan for the College. But we settled that before we got through with it, and Manhattan was made by law the location of the Agricultural College, and had donated to it the ninety thousand acres of land. About two o'clock at night I was aroused in my room. A man came in and says, almost crying, "Now, Lawrence has got the University, Manhattan has got the Agricultural College, and I must do something for Emporia, or I will be disgraced. I never can go home and have Emporia treated so." I asked him what he proposed to do. Well, he says, "I have got this bill here, and I want you to help us get it through. It is to establish a Normal School at Emporia, and give us the north half of all the salt sections in the State of Kansas." I said I would help him.

So the next morning we got the bill through on the second reading, and finally on the third reading, and it went through the House. And now we have the State University, the State Agricultural College, and the State Normal School at Emporia, and I think it was one of the best days' work that was ever done in the State of Kansas. Each of these institutions is a credit to our State. Each of them is the peer of any institution in the land of equal advantages; and I might say far a head of a great many institutions; they are a great deal broader.

When my friend here comes to write up a history of the Agricultural College, I want him to include all that history. There was another fight in the Legislature at that time. We located all the railroads in the State of Kansas that have been prominent and national lines. Atchison had a little fight on her hands in connection with these matters, and of course she had to be very quiet between Manhattan and Lawrence and Emporia—and Leavenworth, which wanted the penitentiary. At that same session the great Pacific line was located. The Central Branch line was located. The road from Leavenworth south, through Lawrence, was located, and the Atchison, Topeka, and Santa Fe was located. So it was a profitable session, and laid the foundation in various ways for the prosperity we are enjoying today.

We built better than we knew, though I always had a great deal of hope for the Agricultural College. I admit sometimes I was displeased, at other times, mad at it; but at other times I thought a great deal of it, and I have always loved it and expect to love it still. I do not mean the stiller the better. I have had a great deal of hope for the Agricultural College. It is today considered to be the foremost Agricultural College in America. I have talked with people from different States in the Union; I have talked with some of these scientific gentlemen that we have heard about who know what an Agricultural College ought to be, about the work it is doing, and they all give to the Kansas Agricultural College a place in the first rank of institutions of that kind.

I think I had the honor, Professor, of reading the first paper that ever was read by an outsider at the Kansas State Agricultural College. I outlined then in a feeble way what I thought the College ought to be. After twenty years, I had forgotten about it. I was looking through a desk one day and found a roll of paper. I opened it, and looking through it, found it was a paper I had read in 1865 to a number of professors and about twenty or thirty scholars—I think that was about all that were present—away up there on the hill. But it was not an agricultural college then. It is true they had hired a professor, and called him a Professor of Agriculture. They had him about three years, and as an agricultural scientist—I think he was a scientist—he demonstrated at the expiration of his three years that it was better, when you grafted for apples, to use a long graft than a short one. That was all of the agricultural part of it we heard for quite a number of years.

But it was given new life. It started out in that new life to answer the demands and fulfill the pur-

pose of its organization. The Regents and the Professors appreciated the fact that Kansas was an agricultural State; that its prosperity depended upon its agriculture and its stock raising; and that this was the institution around which all of this State could center for advice, for information, for assistance in all of the lines which the farmers and agriculturists and the stock raisers of this State had to follow. And it is fulfilling its purpose today. It is fulfilling the foundation purposes of those who desire and hope for its success. And I hope that the appropriation will be made for a pig pen; and I don't believe it is an improper appropriation, nor one that is too large.

When we bring young gentlemen here to educate them, you want to teach them what farming is, how a farm should be maintained, and the condition it should be kept in. Teach them that it should be neat, properly maintained, and give them an idea of the kind of stock they should raise, the kind of crops they should raise, and the manner in which they should be raised. A young man who is educated here who wants to go into pig raising, should be so educated that he will be stimulated to have a good and neat pig-house upon his farm, a good barn, and a good comfortable dwelling house, a good orchard, and all its surroundings of such grade and such a nature as to be inviting, and make it a pleasant home for himself and his family, having his children love it as the dearest spot upon earth, and a place that they won't want to leave, to go and work for thirty dollars a month from six o'clock in the morning until nine o'clock in the evening, jumping over the counters waiting upon people. This kind of farming, and the kind of ambition that you instill into young men in years to come, will add prosperity to the State; and farmers will give evidence of the education they have received, and they won't desire to go to the cities and drag out a miserable, lingering life, at the end of which they are no better off, perhaps, than the day when they commenced working.

And what is there more encouraging to the young man, to the young citizen, than to be the owner of a farm, with all its environments and all its surroundings, with all the beauty that education, that scientific knowledge, that ambition, can make in that home. That is what I believe that the Agricultural College is for. That is the work that it is doing today. It encourages the young man to manage farms properly, to have a scientific knowledge that they can use, to better their condition at all times and under all circumstances.

But, Mr. President, I forgot about the parrot. I beg pardon for taking as much of your time as I have.

FOR THE WORLD.

"Learning in Labor," Judge W. B. Sutton, Russell. Mr. President, ladies and gentlemen. All things are included under the three heads, the world, the flesh, and the devil. Now, my friend, the ex-Governor, [Mr. Glick] has his share of the flesh, and he is welcome to it. We have no use for the devil, but I trust he would keep out of my garden patch, called the world, because it was known that I should have a wide scope, a broad field from which to gather anything of interest to say to you tonight. The notice was only served on me when I got off the train to come up here, and I hadn't time to sit down and carefully write out for you a few extemporaneous remarks. I am embarrassed because I stand here tonight before this scientific audience, before all these learned gentlemen who spend the most of their days in the investigation of the stars, and the sun, and of the moon, while I tramp daily over old Mother Earth, seeking the elevation of all and enjoying myself the best I can.

I am a good deal in sympathy with what I think must have been the contents of the paper from our distinguished Secretary of Agriculture, which called forth some comments from the distinguished gentleman on my right [Mr. Anthony]. We don't want too much science in agriculture, although science has its place there, as well as everywhere else. The history of the world, I think, teaches us that when men have gone daft after science they have gradually neglected their agriculture. Was not Greece a most scientific country? Did not Egypt, the Phœnicians, and the Carthaginians, and the Romans climb as high in many things as we have since that time? Did not they cultivate the higher powers of men until their orators were as great as any we have produced in this age? And yet they did not attain the full measure of success, lacking labor. It was because they erred upon one side, and later generations of the world erred upon the other side that it is left to us to strike that golden mean, to mingle learning and labor together in such proportions as to develop the grandest men of history.

This institution is founded for the purpose of "growing up" just such men and just such women, and spreading them out over the plains of Kansas to occupy it, to till it, and there to bring up their progeny, each generation superior to their progenitors, until we reach that point in civilization approximating which no other country in the world has reached.

Now, science, of course, may be carried to extremes. Science may be taught to such an extent that men lose all insight into the practical things of life. I remember to have heard years ago an anecdote of a scientific man who spent his summers in the country. One day, climbing upon a grassy hillside, enjoying the warm sunshine, he spied the gable end of a little tannery, and in that gable end he saw a calf's tail with a knot tied in it, the sign of the tannery. He turned his mind to solve the problem. He labored long and earnestly. He finally gave it up, and walking down to the tannery, he spoke to the proprietor and said, "Look here! I am a scientific

man. I have studied the courses of the planets, the procession of the equinox; but for the life and soul of me I can't answer how that calf got through that hole and stuck on a knot tied in its tail."

What was I to talk about? "Learning in Labor?" There are classes of humanity the difference between which is hard to define. I know of gentlemen who tramp up and down this country, and when they do work, they appear to be breaking stones with hammers. There are two distinct classes of our citizens who occupy themselves in that way,—breaking stones with hammers. One class is called geologists, and the other tramps; and the distinction between them is the learning in labor.

Just a word about this institution, and I want to close, for I am not prepared to make a speech. I want to remember the point of Gov. Anthony's story, and not talk too much. This institution is the ideal of the people of Kansas. It is the hope of the people of Kansas, and it is their pride, and if there is any one institution within her borders to which her people at large are wedded it is this one. And if the full duty of the Faculty and Regents of this College is discharged towards the people of the State of Kansas, there never need be any fear of the people or of anybody connected with it, or interested in it, that the people of Kansas will not discharge their duty towards it. The boys and girls, or young men and young women, will be trained to manhood and womanhood, with the proper mixture of learning and labor which will make them useful students in every vocation of life into which they may enter. Particularly will they be armed with the weapons to contend against all adverse circumstances; and go out upon these plains, to subject them to the hand of the husbandman, and to people them with an intelligent, educated, and industrious people, firm when all dangers may threaten this republic;—and it will be threatened, and it is today threatened by the vast aggregation of people in densely populated centers who are not to be reconciled with the principles upon which this Government is founded. There will come sometime here in the history of this land a cry to save us; and that cry can only be answered from the farms of the United States by those people whose ideas are clear, whose education has been practical, and whose patriotism never can be questioned. The man who lives upon a farm which he owns, the man who has a home around the fireside of which he gathers his family,—that is the type of a man which makes up the aggregation of the people of the United States. It is to this people ever that the appeal for help, and for the safety of our institutions, will come. And if that independence of the farm, that independence of the home and of the fireside is maintained, the response will be quick, and the response will be strong and our institutions will last and remain perpetual.

I sometimes indulge in the dream that we have founded here the lasting abiding place for liberty in these United States; that we will go on building until we have built a government which will be the admiration of every other nation on the face of the earth; that it will be built so high, will be so conspicuous for success and happiness and prosperity of its people that thrones and dynasties wherever located on the face of the earth will topple and fall into dust; that our constitution will form the basis for the amendment of other governments like it, and its people, with every other people on the face of the earth, will live under a constitution, under laws and institutions, which are alike or copied from our own.

President Fairchild's words of farewell were as earnest as they were brief. He said:—

"Now, my friends, in bidding you good-night, I want to say that this is a 'red-letter' day in my life. It is fifteen years ago this month since I stepped into the place which I have occupied since at the head of this College. Its growth has been my life, my love; and the good words you have said today, the kind words for us and our work, are very dear to me. If I can look back over the fifteen years and feel assured that this foundation shall be the beginning of a structure that shall be of use to the world, I shall feel paid, and more than paid, for all services I have rendered to the world. I bid you good-night, with the hope that you will carry to your friends and others throughout the State the good will we have for them, and that we shall sometime again call upon you to cherish us as you have done today by your good words."

Congratulations from Absent Friends.

Numerous letters of regret have been received from invited friends of the College, expressing cordial interest in the growth of the College and its good work. A few, only, of these kind words can be given here as sample of the many.

From Ex-Governor Crawford: "In the early days of our State we made no mistake in laying the foundation for the grand institution you and your co-workers have built. Kansas is an agricultural State, and for that reason our State Agricultural College is of first importance to our people. Upon the success of this College depend largely the growth and development of agricultural and mechanical art in Kansas."

From Ex-Governor St. John: "As a Kansan I hail with great joy the wonderful progress made by our State Agricultural College. It is no longer 'an experiment,' but stands today before the world a marvelous success."

From Hon. W. E. Sterne: "I congratulate you and your associates upon the completion of the new

building, for the reason that it will furnish additional opportunities to increase the efficiency and importance of the Agricultural College. I want to assure you that your work is appreciated by the people of Kansas."

From Hon. Geo. S. Green: "I have seen the institution grow under your administration, and have at all times taken a deep interest in the success of the College: it would afford me much pleasure to be at the exercises of the dedication of the new Hall of Science."

From Hon. Noble Prentiss: "I not only wish you a good time, but know you will have it. The Agricultural College never has any other."

From Chancellor James H. Canfield: "I should certainly be with you were it within the limits of possibility. I hope that you will find your new Library and Science Hall the very center of your college life."

From President R. A. Jesse, Missouri University: "I congratulate you on the success you have achieved and hope that still greater achievements await you in the future."

From President Alston Ellis, State Agricultural College of Colorado: "I trust that your dedicatory exercises will be pleasant and instructive, and that they will tend to advance the interests of the excellent institution over which you preside."

From President H. E. Alvord, Oklahoma Agricultural College: "Your kind invitation has been received for the 28th inst.—an occasion of interest and evidently significant of substantial progress at your successful institution. Soon, however, I hope to see the new hall."

From President G. W. Atherton, Pennsylvania State College: "I must, however, send my heartiest congratulations on this important addition to your equipment, and my earnest good wishes for the future prosperity of yourself and the College."

From Prof. Charles E. Bessey of Nebraska University: "I congratulate you upon the completion of so fine and useful a building. I desire to particularly congratulate the Botanical Department upon its good fortune in taking possession of such good rooms. I trust that the Regents will soon take steps to fill those botanical rooms with everything which the Professor desires."

Dedication Notes.

Hon. A. A. Newman, who superintended the construction of the building, was present.

Mr. and Mrs. Higinbotham were among the guests. Mr. Higinbotham was a Regent from 1871 to 1873.

P. S. Creager, '91, did his Alma Mater proud in his full report of the banquet to the Topeka Capital, of which he is City Editor.

Mr. H. J. Allen, of the Nationalist, occupied a seat at the Press table, and wrote an interesting report of the exercises for his paper.

A previous engagement requiring their absence from town prevented the attendance of the Messrs. Ulrich, the builders; but their excellent work spoke for them.

The toasts printed in the INDUSTRIALIST are from the stenographic report of Will Spilman, Second-year in 1889-90, court stenographer for the Fifth District.

Distinguished guests other than those on the program or members of the Academy were Hon. T. M. Potter, of Peabody, President of State Board of Agriculture, and Hon. A. C. Sherman, Representative from Shawnee County.

THE KANSAS ACADEMY OF SCIENCE.

The Twenty-seventh Annual Meeting at the Kansas State Agricultural College.

The twenty-seventh annual meeting of the Kansas Academy of Science was held at the College December 27th, 28th, and 29th. The sessions were held in the South Society Room of the Library and Agricultural Science Hall.

The business session was held Thursday afternoon, when President Sayre appointed his committees.

In the evening, Dr. Sayre delivered an instructive lecture on "Medicinal Plants," illustrated by numerous lantern views.

During the sessions of the Academy the following papers were read:—

Volcanic effects in Kansas..... S. Z. Sharp
New Cretaceous and Tertiary Vertebrates..... S. W. Williston
Rotation of Mercury and Venus..... E. Miller
Dakota Formations and Sand Hills..... Robert Hay
How the Pheasant "Drums"..... J. R. Mead
Some Remarkable Sink-holes in Sherman County..... Robert Hay
A List of Wyandotte County Ferns, with Notes..... Minnie Reed
Velocity of Wind at Lawrence—past twenty-two years..... F. H. Snow
Additions to the Flora of Kansas..... B. B. Smyth
Phenological Notes for Kansas..... B. B. Smyth
A Floral Clock for Kansas..... B. B. Smyth
Sand Dune Collecting Notes..... W. Knaus
A New Collecting Ground for *Cicindela limbata*, Say..... W. Knaus
An Undescribed Rhyncholus from Central Kansas..... W. Knaus
Natural Gas and Oil in Kansas..... E. H. S. Bailey
On the Variation in the Composition of Taraxacum Root..... L. E. Sayre
Ethyl and Methyl Alcohol on Ortho- and Meta-di-azo-benzene-sulphonic Acids..... E. C. Franklin
On the New Water Supply at the State University..... E. C. Murphy
Curvature of Fans..... Arnold Emch
Geometrical Models..... B. B. Smyth
The Closing of Michigan Glacial Lakes..... B. B. Smyth
The Topeka "Coal Hole"..... B. B. Smyth
The Terminal Boulder Train in Shawnee County..... B. B. Smyth
Harmonic Series..... B. B. Smyth
Harmonic Forms..... B. B. Smyth
Botanical Notes from Northwest Kansas..... B. B. Smyth
Catalogue of the Kansas State Herbarium..... B. B. Smyth
Recent Cutting of the Missouri River at Atchison..... J. M. Price, Jr.
Rock Exposures about Atchison..... E. B. Knerr
Atchison Coal..... J. M. Price, Jr.
Parasitism in *Aphyllon uniflorum*..... E. B. Knerr
A Theory of the Cosmos..... N. S. Mayo
Cattle Poisoning by Nitrate of Potash in Corn Stalks..... N. S. Mayo
Two New Streptococci—Probably Pathogenic..... N. S. Mayo
Habit of *Loxia curvirostra stricklandii*..... D. E. Lantz
List of the Birds of Manhattan, Kansas, and vicinity..... D. E. Lantz
The Chemical Examination of Spurious Gold Dust..... V. L. Layton and H. C. Cady

A Study of Premolars..... A. H. Thompson
The Blood-sucking Cone-nose—Its Habits and Life History..... Bertha Kimball

Officers elected for the ensuing year were: President, Warren Knaus; Vice-Presidents, I. D. Graham, S. W. Williston; Secretary, E. B. Knerr; Treasurer, D. S. Kelly; Curators, B. B. Smyth, A. H. Thompson, Robt. Hay.

The Committee on Resolutions reported as follows:—Resolved, That the Kansas Academy of Science is under obligations to the Board of Regents and the Faculty of the Kansas State Agricultural College for their hospitality and for the many courtesies extended to us during these meetings; and that we also desire to express our obligations to Mrs. Kedzie, whose skill and that of her trained assistants—manifested on this occasion of the banquet so liberally provided by the President and Faculty, at the dedication of the new Library and Agricultural Science Hall—has made this twenty-seventh annual meeting one long to be remembered by the members of the Academy.

E. H. S. BAILEY,
D. S. KELLY,
S. W. WILLISTON,
Committee.

MEMBERS PRESENT.

Bailey, E. H. S., Lawrence.
Breese, C. M., Manhattan.
Franklin, E. C., Lawrence.
Graham, I. D., Manhattan.
Georgeson, C. C., Manhattan.
Harshbarger, W. A., Topeka.
Haworth, Erasmus, Lawrence.
Hay, Robt., Junction City.
Hitchcock, A. S., Manhattan.
Hood, O. P., Manhattan.
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Knerr, E. B., Atchison.
Knaus, Warren, McPherson.
Marlatt, F. A., Manhattan.
Mayo, N. S., Manhattan.
Mead, J. R., Wichita.
Murphy, E. C., Lawrence.
Miller, E., Lawrence.
Popenoe, E. A., Manhattan.
Price, J. M., Atchison.
Reed, Minnie, Argentine.
Sayre, L. E., Lawrence.
Snow, F. H., Lawrence.
Smyth, B. B., Topeka.
Thompson, A. H., Topeka.
Ward, M. L., Ottawa.
Willard, J. T., Manhattan.
Williston, S. W., Lawrence.

NEW MEMBERS.

Beede, J. W., Topeka.
Cady, H. P., Lawrence.
Dunstan, A. S., Lawrence.
Emch, Arnold, Lawrence.
Eyre, B. F., Hiawatha.
Hoffman, C. B., Enterprise.
Jones, A. W., Salina.
Kimball, Bertha, Manhattan.
Layton, V. L., Lawrence.
Lantz, D. E., Manhattan.
Lovewell, Prof., Topeka.
Norton, J. B. S., Manhattan.
Taylor, J. E., Berryton.
Walters, J. D., Manhattan.

Short Course for Farmers.

The program for the Farmers' Short Course has been completed. The course begins Tuesday, February 5th, and ends on Saturday, February 16, with three lectures every day, except Sunday, as set forth in the program given below:—

TUESDAY, FEBRUARY 5th.

1:30 P. M. President Fairchild, Intellectual Growth in Farm Homes.
3:00 P. M. Professor Failyer, Origin and Properties of Soils.

WEDNESDAY, FEBRUARY 6th.

10:30 A. M. Professor Hitchcock, Fungous Diseases of Field and Garden Crops.
1:30 P. M. Professor Popenoe, General Considerations in Economic Entomology.
3:00 P. M. Professor Georgeson, Origin and Characteristics of the Leading Breeds of Cattle.

THURSDAY, FEBRUARY 7th.

10:30 A. M. Professor Lantz, Agricultural Literature.
1:30 P. M. Professor Georgeson, Principles of Selection and Breeding Live Stock.
3:00 P. M. Professor Mayo, Some Hereditary Diseases of Animals.

FRIDAY, FEBRUARY 8th.

10:30 A. M. Professor Hood, Pumps and Power.
1:30 P. M. Professor Failyer, Water for House Use.
3:00 P. M. Professor Popenoe, Farm Insects.

SATURDAY, FEBRUARY 9th.

10:30 A. M. Professor Willard, Nitrogen in some of its Relations to Agriculture.
1:30 P. M. Professor Hitchcock, How Plants obtain their Food.

MONDAY, FEBRUARY 11th.

10:30 A. M. Professor Mayo, Parasitic Diseases of Animals and Their Treatment.
1:30 P. M. Professor Mason, Propagation of Orchard Trees.
3:00 P. M. Professor Walters, The Home Lot.

TUESDAY, FEBRUARY 12th.

10:30 A. M. Professor Georgeson, Principles of Feeding Live Stock.
1:30 P. M. Professor Kedzie, Meats.
3:00 P. M. Professor Popenoe, Beneficial Insects.

WEDNESDAY, FEBRUARY 13th.

10:30 A. M. Professor Will, Money. I.
1:30 P. M. Professor Graham, Farm Accounts.
3:00 P. M. President Fairchild, The Farmer Makes His Farm.

THURSDAY, FEBRUARY 14th.

10:30 A. M. Professor Mason, Varieties of Vegetables for the Farm Garden.
1:30 P. M. Professor Mayo, Contagious and Infectious Diseases: Their Cause and Prevention.
3:00 P. M. Professor Georgeson, Necessity for Maintaining the Fertility of the Farm.

FRIDAY, FEBRUARY 15th.

10:30 A. M. Professor Mason, Soil Management and Irrigation in the Garden.
1:30 P. M. Professor Hitchcock, Relation of Plants to Climate.
3:00 P. M. Professor Will, Money. II.

SATURDAY, FEBRUARY 16th.

10:30 P. M. Professor Georgeson, Home Dairying.
1:30 P. M. Professor Mason, Fruits for Home Use and Market.

Several lecturers have been invited from abroad, among them, Hon. Harrison Kelley of Burlington, Hon. C. B. Hoffman of Enterprise, Hon. J. W. Bailey of Baileyville, Mr. A. E. Jones of Topeka, and others.

These gentlemen will lecture in the evening. Their subjects and dates will be announced later when definitely settled upon.

This course is intended to benefit farmers, and the young men on the farm who have not the time to take a longer course at the College, and persons from all parts of the State who think it would be to their advantage to hear these lectures are most cordially invited to attend. There is no expense whatever connected with it except the cost of transportation and board and lodging while here. Board and room can be obtained in private families at from \$2.50 to \$4.00 per week.

It is believed that the young men especially should make an extra effort to attend this course. There are a large number of young men in the State who are so situated that it would be impossible for them to take a regular College course, but who, nevertheless, are desirous of adding to their knowledge of farm topics, and who can manage to leave their employments for a couple of weeks during the winter season. To them, this course will afford an opportunity to peep in to the world of science and learn something of the

laws and principles which underlie successful farming. The College laboratories, greenhouses, museums, orchards, farm, barn, silos, and live-stock are accessible to their inspection and study, and will afford object lessons and food for thought. The College would be glad to welcome a hundred such young men to the course.

But as already stated the course is designed for everybody, both old and young, and the older men, who are already in the thick of the fight, who are burdened with the cares and perplexities of active life on the farm, are also heartily welcome. It is believed that they too can profit by this course, even more than the young men, by reason of their more mature judgment. There are hundreds of farmers in the State who could arrange to be absent from their homes for a couple of weeks, and who, aside from the course itself, would find much to interest them at the State Agricultural College. As citizens, they ought to acquaint themselves with the one State institution which, above all others, is designed for their benefit; and those who plan to send their sons and daughters here in the near future could make this an occasion on which to give the institution a thorough investigation as to the studies taught, methods of teaching, and facilities for giving instruction, while they at the same time may be personally benefited by the short course. The College extends a hearty welcome to all. Those who desire more information on this subject should address President Geo. T. Fairchild, Manhattan, Kans.

C. C. GEORGESON.

MANHATTAN ADVERTISEMENTS.

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PROGRESS OF FEEDING EXPERIMENTS.

BY PROF. C. C. GEORGESON.

WE have, at present, three feeding experiments under way, one with steers and hogs to follow them, and two separate experiments with hogs. The steer-feeding experiment promises to be an interesting one. It is designed to give evidence on two questions; first, as to the value of ground wheat for fattening steers, and, secondly, a comparison of two lots of steers of six each, one lot being thoroughbred Short-horns and the other lot the type of common cattle usually styled "scrubs." These are the steers which were purchased more than a year and a half ago as yearlings, with a view to compare the feeding of these two classes of cattle. There were originally ten steers in each lot, but in the course of the past year and a half two of the scrubs died, leaving but eight in the lot, and among the Short-horns, four were somewhat younger than the rest and should be carried through another year before fattening; while six of them were growthy steers which ought to be fattened this winter.

With this material on hand, it was decided to select the six heaviest steers of each lot and prepare them for market on ground wheat. These two lots of steers were put in the feed pens November 1st. The total weight of the six Short-horns was 7155 pounds. The total weight of the scrubs was 5962 pounds. The two lots are fed exactly alike in open yards, each with a shed open to the south in which to seek shelter from storms. Their grain feed has so far consisted exclusively of ground wheat, fed dry, and their fodder consists of corn-stalks, which, as a measure of economy, are run through the fodder cutter in order to lessen waste. They are fed twice daily, each lot collectively, and care is taken to give them what they will eat of the ground wheat and no more. Of the corn fodder, there is more or less waste, as they do not eat the dry chips of stalk up clean. This waste is weighed and deducted from amount fed.

From November 1st to January 10th inclusive, seventy-one days, the Short-horns made a gain of 1108 pounds, or 2.6 pounds per day. The scrubs, in the same time, gained 1025 pounds, or 2.4 pounds per day per head. The Short-horns had, during this period, eaten 6569 pounds of ground wheat and 6362 pounds of cut corn-stalks, which makes an average of 5.92 pounds wheat and 5.74 pounds corn-stalks to each pound of gain. The scrubs made their gain of 2.4 pounds per day per head on 6038 pounds wheat and 3441 pounds stover, or an average of 5.89 pounds of wheat and 3.35 pounds corn-stalks to each pound of gain. While the scrubs have gained less than the Short-horns, it is to be noticed that they have so far required a trifle less feed per pound of gain.

The experiment will be continued until they all get in good market condition. It is too early to prophesy as to the outcome; but it is of interest to note how they compare at this time and what gains they have made on exclusive wheat and corn-stalk diet.

The two pig-feeding experiments embrace in all 28 pigs. Twelve of these weighed, when the experiment begun, about 150 pounds each; the remaining 16 are small pigs just weaned. The 12 large pigs are divided into three lots of four each. Each pig is in a pen to himself and is fed individually. Of the three lots, Lot I. is fed on Red Kaffir corn, Lot II. on corn, and Lot III. on wheat. All three grains are ground moderately fine and fed in a slop. The experiment has not proceeded far enough to reach any conclusions, as they have been fed only twenty-one days. In that time, Lot I. (Kaffir corn meal) has gained 146 pounds, for the four head, on 568 pounds of meal. Lot II. has gained 162 pounds on 559 pounds of corn meal. Lot III. has gained 206 pounds on 554 pounds of ground wheat.

The object of this experiment is to ascertain the relative feeding value of wheat and Kaffir corn in comparison with corn when fed to hogs. Kaffir corn is growing more and more in favor with our farmers, owing to its drouth-resisting properties, and it is of importance to know its value as a feed stuff for domestic animals. Wheat, in like manner, has, during the past year, been employed in a new role, namely, as a feed for live-stock, and we must know just where to place it. So far the corn occupies the middle position, the Kaffir corn having produced the least gain and the wheat the most, but these results may change before the experiment closes.

The experiment with the small pigs has only just begun, and there are, therefore, no gains to report.

They are divided into four lots of four each; of these one lot is fed on cotton-seed meal and corn meal, one pound of the former and five of the latter. This proportion is liable to be changed, however. One lot is fed on ground corn and wheat mixed equal weights. One lot is fed on corn meal, and one lot on ground wheat.

The object of this experiment is to ascertain, 1st, the effects of cotton seed meal on pigs. There have been so many instances reported of hogs dying from eating cotton-seed meal that it was determined to try an experiment with this feed on a small scale. 2nd. We desire to compare the other three feeds when fed to young pigs. In this experiment, the pigs are not fed individually; all in the same lot eating out of one trough. The pigs are weighed individually, however, so as to note any variation in thriftiness.

"STICK-TO-ITIVENESS."

BY ALICE RUPP.

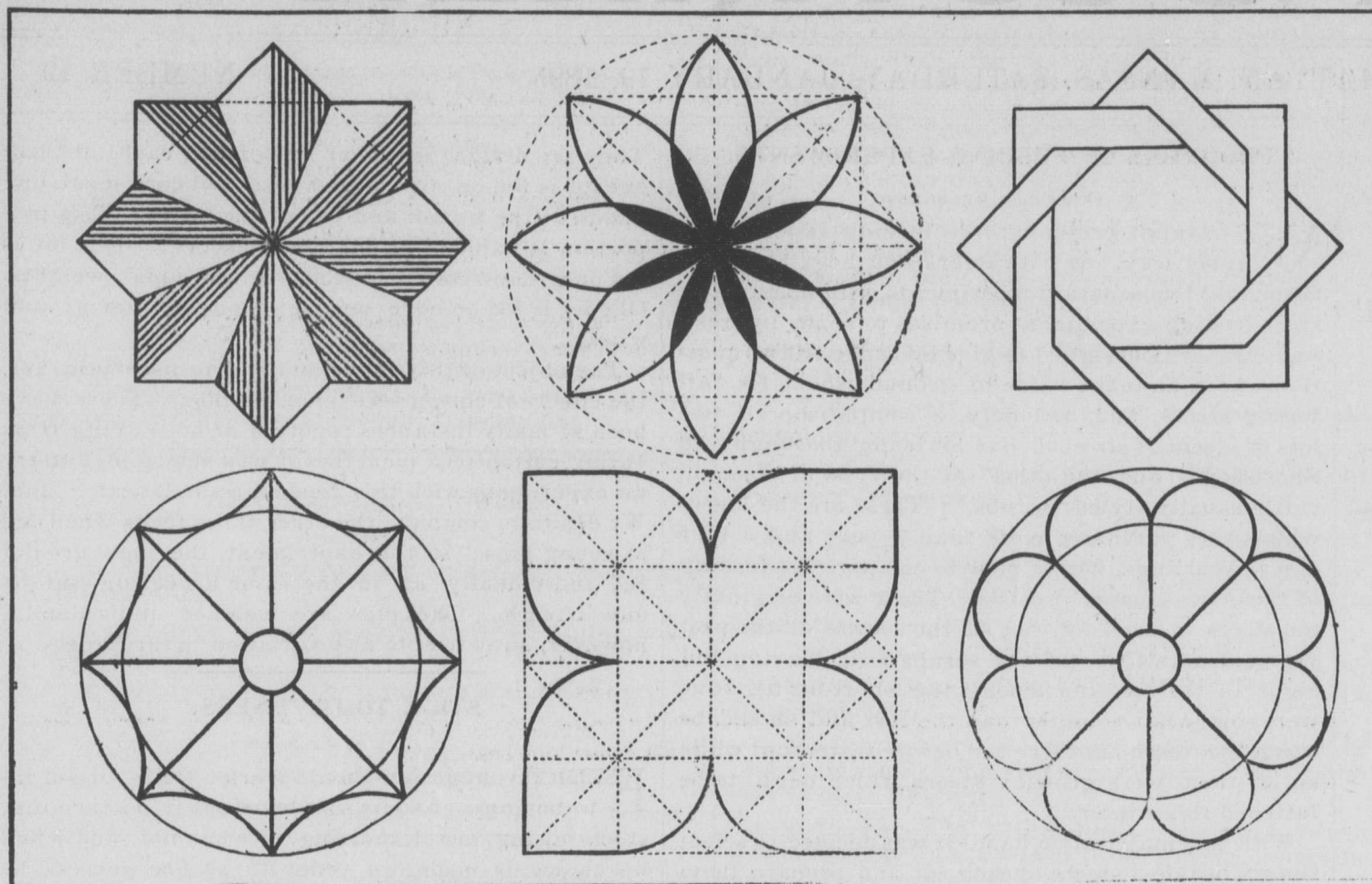
EVERY young man should learn a trade, or get into business of some sort, whether it be farming, stock-raising, merchandising, or what not, and when his choice is made, in order to secure success he should go at it with a determination that defies failure. Do not leave because disagreeable duties are to be performed and hard blows must be struck, for whatever your vocation—though your changes be as frequent as the hues of the chameleon—these two foes, that must be bravely faced and conquered, will be met.

Don't try to begin at the top; if you do, you will find, nine times out of ten, when years of experience should have placed you at the pinnacle, a long backward stride has been taken and you are still standing on the first round. Those who have worked their way up to wealth and usefulness began at the very bottom; they had no friends to boost them from the cradle of business to exalted ranks of trust and responsibility. A. T. Stewart swept out his own store. John Jacob Astor sold apples on the streets of New York. Cornelius Vanderbilt blistered his own hands ferrying his boat. Stephen Girard at twelve was a cabin boy on a vessel. Horace Greeley rose from a "printer's devil" to be the founder and editor of the *New York Tribune*. Lincoln, Grant, and Garfield came to the presidency of the United States from the rail splitting, the tannery, and the towpath.

Therefore do not be over particular as to what you do, but take hold of the humblest piece of work that comes along and push it to success, as though it was the grandest achievement of your life. Work with a will and conquer all prejudices against labor, manfully bearing the heat and burden of the day. "A thing begun is half done." It may be hard the first week or the first month, but after that it will become a pleasure, and you will feel enough better satisfied with yourself to repay, with interest, all the trials of a beginning. We acknowledge, with regret, that there are many, many men whose hands are as "soft and delicate as their heads," but this active, pushing, business world has no use for such "tender house plants," so they are crowded out to make room for the firmer, stronger, pluckier stuff.

Charity had left a supply of coal at a poor widow's door. A little boy came out with a fire-shovel and began to take a shovelful at a time to carry it to a sort of bin in the cellar. A gentleman passing asked "Do you expect to get all that coal in with your little shovel?" He was quite confused with the question, but the answer was quick and striking: "Yes, sir, if I stick to it long enough."

By this same principle of stick-to-it, as well as in many other ways, make your services indispensable to your employer. Be prompt and on time. Scorn tardiness and lazy, sluggish, lagging movements. When a task is begun stick to it till it is done; do not watch the clock to see the very second the working hour is up—then throw down hammer and nails, the hay rake, dust brush, or package—or whatever your tools may be—that you may leave at the exact instant, no matter what state the work may be in. Throw in an odd half hour or an hour's time if the occasion demands it, and do not seem to make a merit of it. Do it heartily, cheerfully, kindly, and though not a word may be said at the time, your employer will make a note of it. When times are hard and all expenses must be reduced, even though it means the bread and butter of many, your services are indispensable, while he who calculates the exact amount he can slight his work with impunity—who is lavish with his employer's goods—who rushes madly for his



hat at the first stroke of six, as though the equilibrium of the world hung upon his leaving his post at the exact second—is the first to receive the notice: "Business is dull, expenses must be lessened; your services are no longer required."

You need have no fear for the future if you zealously stand by the motto, "Stick-to-itiveness and Industry." Never mind the hard, rough hands and

A NEW SERIES OF TEXT-BOOKS ON GRAPHICS.

BY PROF. J. D. WALTERS.

"OF the making of books there is no end." Yet, there are many branches of modern science the literature of which is lamentably insignificant. Ten thousands of volumes are written annually on fiction, while there is practically nothing published in some branches of engineering, mechanics, or pure mathe-

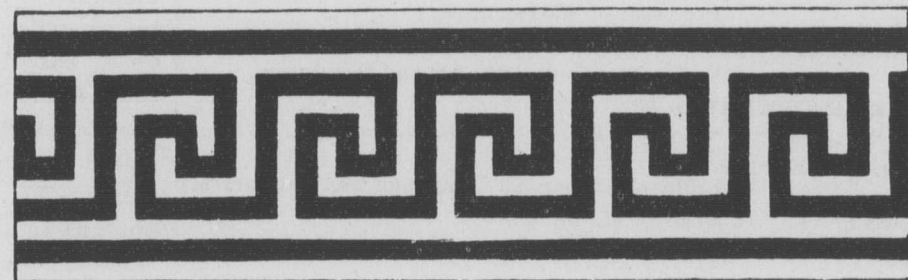
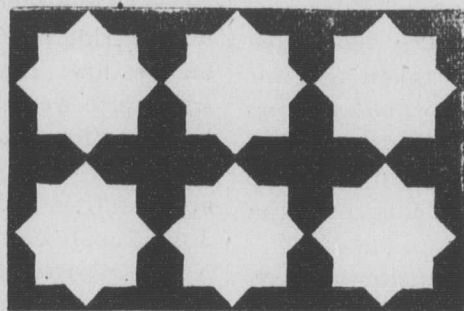
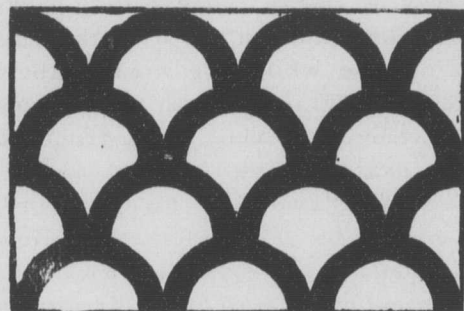
solution, believing that the best method of teaching graphics consists in giving the student a series of systematically arranged and carefully graded problems which he can solve alone or with little assistance on the part of the teacher.

This theory has been followed as a leading principle.

The æsthetic faculties of the student have also received some attention by the introduction into Book I. of a series of plates on surface decorations, into books II. and III. of many shaded projections and several plates of letters for inscription purposes, and into Book IV. of free-hand pen-drawings. The accompanying cuts are culled from the first two volumes.

An Enjoyable Life.

If we could impress upon the boys of the farm the real truth about farming, and talk less about farming not paying, we would have a fewer number leaving us to become carpenters, painters, and general workmen. Besides this, on the farm they are independent business men, their own masters, and everything depends on the amount of ability they display; but as mechanics or laboring men they are simply the tools of others, to give so much labor a day for their wages. He does not direct his own labor, or profit much by any extra display of business talent. He is always subject to the call of another,

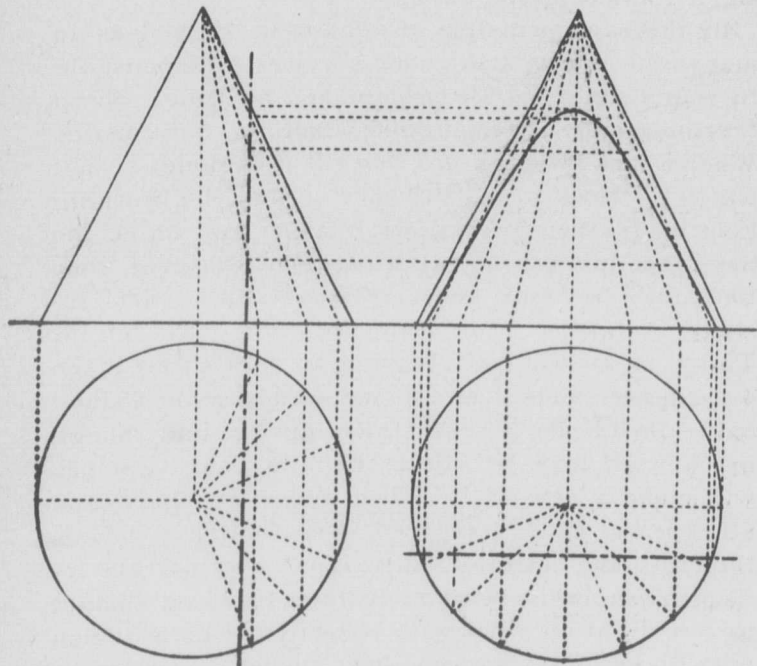


plain clothes—if you have earned the latter they are far better and more beautiful in the estimation of honest, sensible men and women than the finest and most fashionable cloth purchased at the expense of an over-confident tailor.

Trust nothing to luck; it is an *ignus fatuus* which will lead you to ruin, but never to success. It is pluck and not luck which turns the wheels of life. A writer has said, "Good Luck is good pluck with his sleeves rolled up, hard at work making things come out right. Bad Luck is a man with his hands in his pockets, a pipe, cigar, or cigarette in his mouth, wanting only room to spit and waiting to see how things will turn up. Idleness is death; activity, life. Luck is a fool; Pluck is a hero. Luck blossoms on the tree of pluck. The man of pluck will find no time to wait for or complain of luck.

Did you ever read what the poet says of this same sentiment, Stick-to-itiveness and Industry? He says:

"Lose this day loitering, 'twill be the same story
Tomorrow, and the next more dilatory.
The indecision brings its own delays,
And days are lost lamenting o'er lost days.
Are you in earnest? Seize this very minute!
What you can do or think you can, begin it!
Boldness has genius, power, and magic in it.
Only engage, and, when the mind grows heated,
Begin it, and the work will be completed!"



matics. Carloads of books on poetry, travel, or sociology leave the press every week, while one might easily carry a complete set of all the American publications on descriptive geometry in his coat pockets.

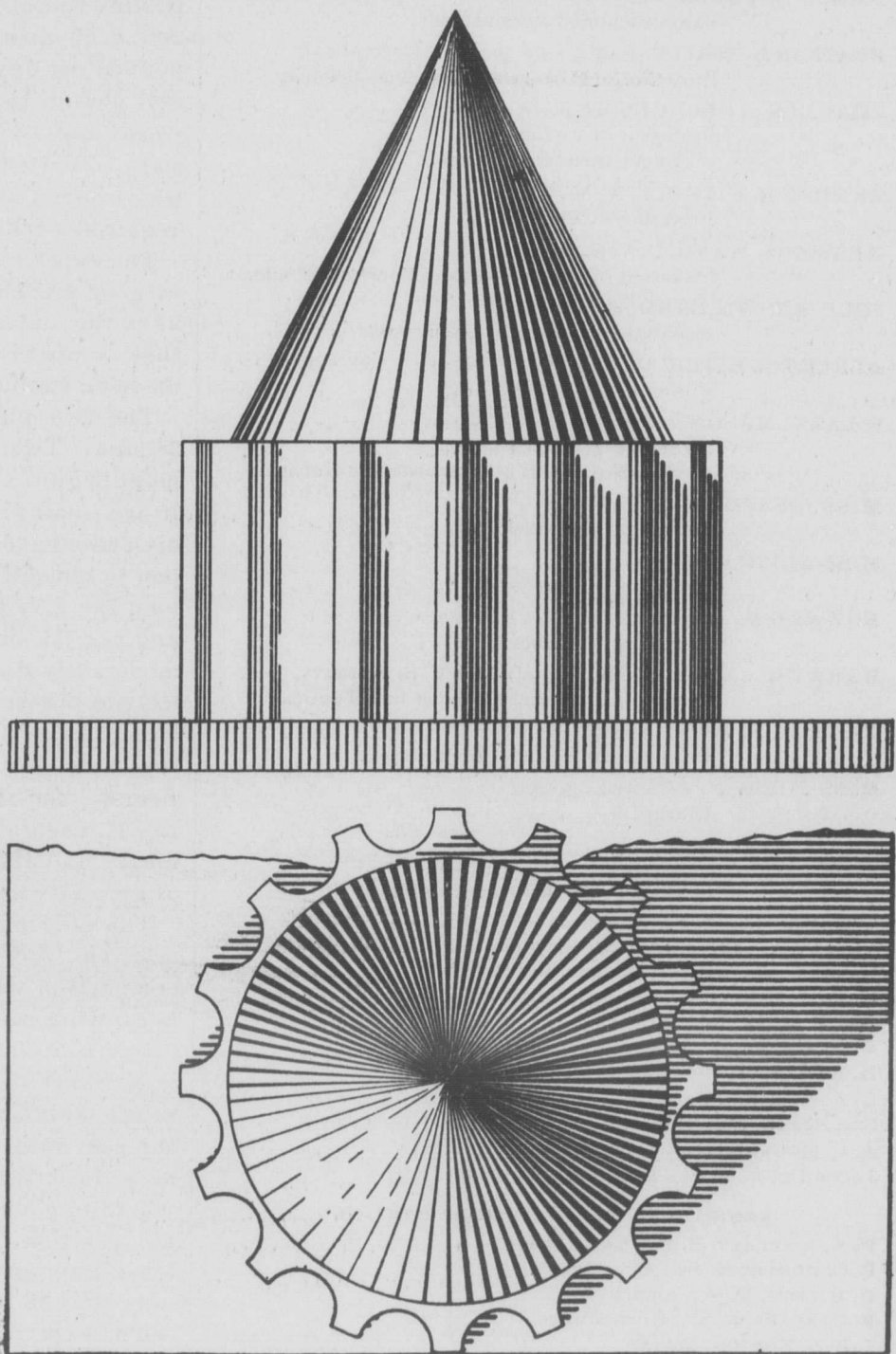
This lack of books treating many very important branches of science is especially felt with regard to text-books. In some studies there is practically nothing suitable existing, and the teacher is forced to present the subject matter to his classes by the tedious dictation method, though it is generally conceded that even a poor text-book is better than none.

It is for these reasons—to fill a long felt want—that the writer of this has undertaken the preparation of a set of text-books on elementary graphics. The cost of the many illustrations of such a work is considerable and the work of compilation and publishing tedious. Yet, after the completion of the main part of the work he feels repaid in that feeling of satisfaction which is the result of every strong effort in the direction of duty.

The work referred to is a series of text-books on elementary graphics, consisting of four small volumes: (1) Geometrical Drawing, (2) Projection Drawing, (3) Descriptive Geometry, (4) Linear Perspective.

It was prepared especially for the classes in mathematical drawing at the Kansas State Agricultural College, but has been arranged so that it can be used under varying conditions. Two of the books are now completed and the third is in the hands of the printer.

While the work is illustrated with nearly three hundred photographic etchings, many of them full-page plates, the explanatory text has been reduced to definitions, classification of relations, problems, and concise and judicious hints on methods of



Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds a. par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Representative Knipe made a brief call at College this morning.

A girl baby arrived Monday to brighten the home of Prof. and Mrs. Olin.

Student editors for the term are Maud Kennett, T. W. Morse, and Geo. W. Fryhofer.

The Post-graduates have organized a class in German, under the leadership of Prof. Hitchcock.

The annual exhibition of the Hamilton Society will be held Saturday evening, February 2nd.

President and Mrs. Fairchild spend Sunday in Kansas City with their daughter, Mrs. Kirshner.

A stove has been put up in the south greenhouse to guard the costly tropical plants in severe weather.

Mary Pincomb, Bertha Steele, and Elizabeth Stingley are among the old students returning to classes this term.

The nomination of Regents Hoffman and Good-year was confirmed by the Legislature the first of the week.

Mrs. Huntress, and Mrs. Hook of Leavenworth, were among the visitors who attended Chapel Friday afternoon.

The literary societies begin the term this week with new officers, well chosen from an abundance of good material.

Misses Jessie Hunter, Alta Lee, Gertrude Duffy, and May Murphy were interested and interesting visitors yesterday.

Prof. Olin read a paper on "The Romance of Kansas History" before the State Historical Society in session at Topeka the first of the week.

Mr. C. H. Compton, of the *Nationalist* office, spent Monday afternoon at the College looking through many departments he has never before taken time to inspect.

G. B. Norris, Third-year, has been elected an associate member of the American Ornithologists' Union. He is a well-informed student in bird life, and is a careful observer and an enthusiastic collector.

The daily (except Monday) lunches furnished by the Cooking Department fit nicely into the newly revised course of study requiring the presence of so many students at afternoon classes. The first of the weekly Faculty dinners was served Monday.

Mrs. Georgeson contributes to *Arthur's Home Magazine* for January an interesting and beautifully illustrated article entitled "Home Life of the Women of Japan" and a supplementary sketch on "The Daily Bath." She writes from personal knowledge of the subject, having spent three years in the land of the chrysanthemum.

The Alumni Association having canvassed the votes of the graduates for representation on the Board of Regents, sends to the Governor the names of the six persons receiving the greater number of votes; viz., Mrs. Emma Haines-Bowen, '77; Sam Kimble, '72; Wm. Ulrich, '77; Warren Knaus, '82; I. D. Gardiner, '84; W. C. Moore, '88.

Ex-Gov. Hubbard of Texas, visited College yesterday morning. He lectured at the opera house in the evening on Japan and the Orient. Mr. Hubbard was United States Minister to Japan under President Cleveland's first administration, and there formed an acquaintance with Prof. Georgeson, who for three years was Instructor in Agriculture at Tokio.

The College Orchestra yesterday opened the public exercises for the Seventh Division of the Third-year Class, who delivered declamations as follows: "The Teachings of Nature," E. G. Gibson; "Imitation," J. J. Fryhofer; "The Old Maid of the Period," Mabel Cotton; "The True Basis of Money," C. A. Chandler; "The Battle of Missionary Ridge," Maggie Carlton; "A Football Battle Between the Seniors and College," J. B. Dorman; "Emmet's Plea," B. Dougherty; "The World a School," W. A. Coe; "Happiness in this World," C. S. Evans; "The Relation of Passion to the Middle Ages," Cora Atwell; "The Unsolved Problems of Science," G. W. Finley. Lorena Helder and Mabel Selby, accompanied by Hilda Leicester, rendered a vocal duet, "Swinging in the Grape Vine Swing."

□ These kind words from the Junction City *Union* are appreciated: "A farmer who has been eminently successful, as has our representative, Mr. G. W. Miller, will certainly not fail to take a deep interest in the appropriations asked by the State Agricultural College. What is true of him should also be true of

every other farmer in the Kansas Legislature. If Kansas is not an agricultural State, it is nothing. Being such, then, the first question to be asked by every representative interested in the material progress of the State should be, when appropriation bills come up, "What does the State Agricultural College need?" The three great State educational institutions, too, should stand side by side in the legislature, and are, in the opinion of the *Union*, entitled to much greater consideration at the hands of the people's servants than has generally been accorded. They have too often been side-tracked—made secondary to matters of mere political significance."

GRADUATES AND FORMER STUDENTS.

T. E. Lyon, '93, took charge of the Eureka Lake School last week.

E. C. Pfeutze, '90, has a situation with the Topeka Waterworks Company.

G. L. Christensen, '94, and J. C. Christensen, '94, were seen about College today.

Jane C. Tunnell, '88, teaches occasionally in the Manhattan schools as substitute.

Dr. H. S. Willard, '89, has again received the appointment of County Physician by the Riley County Commissioners.

C. R. Pearson, '94, is elected Superintendent of Instruction in Sheridan county. He was recently married to Miss Bartlett.

J. B. Thoburn, '93, found time to peep in between trains Monday on his return from Topeka, where he read a paper on Forestry before the State Board of Agriculture.

Lillie B. Bridgman, '86, has been elected to a position in the schools of San Diego, Cal. Miss Bridgman is a contributor to the *Overland Monthly*, for which she has written several stories of more than ordinary interest.

W. C. Moore ['88], editor of the Junction City *Union*, is one of the brightest newspaper men in the State—entirely self-made and deserving, and we predict for him a career other than that of an ordinary journalistic gentleman; in fact, he will be a leader in Republican political affairs in the State of Kansas in a very few years.—*Concordia Daylight*.

The *Farm, Field, and Forum*, Oklahoma's agricultural journal, has to say of a graduate of '91: "Prof. Waugh has inaugurated an excellent method in teaching his horticultural class, by having them visit the greenhouses and various nurseries and fruit farms of the Territory. It is encouraging to see the interest and enthusiasm displayed by this intelligent class of young men and women on these tours of investigation. They eagerly seek information as to the causes of both success and failure, and quickly note a perfect or imperfect tree or vine, and the whys and wherefores for their condition. The class also attended and took an active interest in the second annual meeting of the Oklahoma Horticultural Society. The graduates from this department of the Agricultural and Mechanical College will be of great value in furthering the interests of fruit-growing in the future great State of Oklahoma. We here repeat what we have said many times before, that Prof. F. A. Waugh is just the right man in the right place." Three members of Prof. Waugh's class in horticulture read papers at the recent meeting of the Oklahoma Horticultural Society.

The College Y. M. C. A.

At the beginning of the New Year it may be interesting to review the work done by the Association during the preceding term. At the close of the summer vacation, a joint committee from the Y. M. C. A. and Y. W. C. A. had prepared the first number of the Student's Hand Book. This booklet contains a map and brief history of Manhattan and the College, announcements for the college year, information as to work and meetings of the Y. W. C. A. and Y. M. C. A., places and rates of boarding clubs, church directory, Professors' residences, etc. Five hundred of these were distributed among students before the close of the first week of the fall term, the most of which were given out at the depots. Committees from the Associations met all day trains during the arrival of the new students, giving assistance to strangers.

On Friday evening, September 14th, the close of the first week of College, a reception social was given by the Associations in the New South Society Room. About two hundred and fifty new and old students were present. After a short devotional service led by Prof. White, the evening was spent in greetings and making new students acquainted.

During the fall term nine regular Sunday afternoon meetings were held in the Horticultural Hall, the average attendance at which was thirty-seven.

Four union meetings of the two Associations were held. One Sunday service was omitted because of inclement weather. These meetings, full of interest, were led by older students and members of the Faculty.

Two delegates were sent to the State Convention at Ottawa. A short course in Bible study was given by Prof. Jones to a class of about ten regular members. The Association at present has thirty-five active members. The periodicals received by the Y. M. C. A. are handed to the Librarian and filed in the library where all have free access to them.

The Association feels on entering a new term with the large number of active workers, that it should do better work than ever, keeping in mind its worthy object—the development of character, and the cultivation of moral worth among the young men of the College.

FARMERS' INSTITUTES.

Held Under the Auspices of the Agricultural College.

Institutes will be held at the places and dates as stated below, and the College will be represented at these institutes by the members of the Faculty named:—

Hiawatha, Brown County, January 24, 25, and 26; Professors Graham and Georgeson appointed.

Garden City, Finney County, January 29, 30, and 31; Professors Mason and Hitchcock and Mr. F. W. Dunn appointed.

Lakin, Kearney County, January 31 and February 1; Professors Hitchcock and Mason and F. W. Dunn appointed.

Stockton, Rooks County, January 31 and February 1; Professors Mayo and Will appointed.

Oak Grove, Shawnee County, February 6, 7; Prof. Walters and Mr. Sears appointed.

Huthinson, Reno County, February 7, 8; Professors Hood and Graham appointed.

Russell, Russell County, February 7 and 8; Mrs. Kedzie and Professor Mason appointed.

Peabody, Marion County, February 14 and 15; Professors Popenoe and Walters appointed.

Haven, Reno County, February 21 and 22; Professors Mayo and Mr. Burtis appointed.

Cherryvale, Montgomery County, February 21 and 22; Professors Popenoe and Georgeson appointed.

Notes from the Shop.

The term's work has opened up with an unusually large enrollment in the blacksmith, foundry, and machine shops. The blacksmith shop was so crowded that quite a number were at first crowded out, but arrangements have been made so that all can be accommodated. A second division has been made which commence work at the end of the regular time, 3:35. A similar arrangement has been made in the foundry and machine shop classes, which gives much better opportunity for instruction. The arrangement being foundry and blacksmith classes on Monday and Thursday, and machine shop and blacksmith classes on Tuesday and Wednesday.

Several boys are taking their industrial in the boiler and engine rooms, working as assistants and privileged to ask all the questions about the work Foreman Lund and Engineer Gundaker can answer.

The carpenter shop presents a lively view in the afternoon this term as the Second, Third, and Fourth-year boys have to work their industrial at that time. A number of cases, desks, tables, and fancy articles of various kinds will be the result of the term's work in that department.

The enrollment in the various departments is as follows: Blacksmithing, foundry, machine shop, and boiler room, 88; carpenter shop, 133; mechanics classes, 74.

ED. H. WEBSTER.

Short Course for Farmers.

The program for the Farmers' Short Course has been completed. The course begins Tuesday, February 5th, and ends on Saturday, February 16th, with three lectures every day, except Sunday, as set forth in the program given below:—

TUESDAY, FEBRUARY 5th.

1:30 P. M. President Fairchild, Intellectual Growth in Farm Homes.

3:00 P. M. Professor Failyer, Origin and Properties of Soils.

WEDNESDAY, FEBRUARY 6th.

10:30 A. M. Professor Hitchcock, Fungous Diseases of Field and Garden Crops.

1:30 P. M. Professor Popenoe, General Considerations in Economic Entomology.

3:00 P. M. Professor Georgeson, Origin and Characteristics of the Leading Breeds of Cattle.

THURSDAY, FEBRUARY 7th.

10:30 A. M. Professor Lantz, Agricultural Literature.

1:30 P. M. Professor Georgeson, Principles of Selection and Breeding Live Stock.

3:00 P. M. Professor Mayo, Some Hereditary Diseases of Animals.

FRIDAY, FEBRUARY 8th.

10:30 A. M. Professor Hood, Pumps and Power.

1:30 P. M. Professor Failyer, Water for House Use.

3:00 P. M. Professor Popenoe, Farm Insects.

SATURDAY, FEBRUARY 9th.

10:30 A. M. Professor Willard, Nitrogen in some of its Relations to Agriculture.

1:30 P. M. Professor Hitchcock, How Plants obtain their Food

MONDAY, FEBRUARY 11th.

10:30 A. M. Professor Mayo, Parasitic Diseases of Animals and Their Treatment.

1:30 P. M. Professor Mason, Propagation of Orchard Trees.

3:00 P. M. Professor Walters, The Home Lot.

TUESDAY, FEBRUARY 12th.

10:30 A. M. Professor Georgeson, Principles of Feeding Live-Stock.

1:30 P. M. Professor Kedzie, Meats.

3:00 P. M. Professor Popenoe, Beneficial Insects.

WEDNESDAY, FEBRUARY 13th.

10:30 A. M. Professor Will, Money. I.

1:30 P. M. Professor Graham, Farm Accounts.

3:00 P. M. President Fairchild, The Farmer Makes His Farm.

THURSDAY, FEBRUARY 14th.

10:30 A. M. Professor Mason, Varieties of Vegetables for the Farm Garden.

1:30 P. M. Professor Mayo, Contagious and Infectious Diseases: Their Cause and Prevention.

3:00 P. M. Professor Georgeson, Necessity for Maintaining the Fertility of the Farm.

FRIDAY, FEBRUARY 15th.

10:30 A. M. Professor Mason, Soil Management and Irrigation in the Garden.

1:30 P. M. Professor Hitchcock, Relation of Plants to Climate.

3:00 P. M. Professor Will, Money. II.

SATURDAY, FEBRUARY 16th.

10:30 P. M. Professor Georgeson, Home Dairying.

1:30 P. M. Professor Mason, Fruits for Home Use and Market.

Several lecturers have been invited from abroad, among them. Hon. Harrison Kelley of Burlington, Hon. C. B. Hoffman of Enterprise, Hon. J. W. Bailey of Baileyville, Mr. A. E. Jones of Topeka, and others. These gentlemen will lecture in the evening. Their subjects and dates will be announced later when definitely settled upon.

This course is intended to benefit farmers, and the young men on the farm who have not the time to take a longer course at the College, and persons from all parts of the State who think it would be to their advantage to hear these lectures are most cordially invited to attend. There is no expense whatever connected with it except the cost of transportation and board and lodging while here. Board and room can be obtained in private families at from \$2.50 to \$4.00 per week.

It is believed that the young men especially should make an extra effort to attend this course. There are a large number of young men in the State who are so situated that it would be impossible for them to take a regular College course, but who, nevertheless, are desirous of adding to their knowledge of farm topics, and who can manage to leave their employments for a couple of weeks during the winter season. To them, this course will afford an opportunity to peep in to the world of science and learn something of the laws and principles which underlie successful farming. The College laboratories, greenhouses, museums, orchards, farm, barn, silos, and live-stock are accessible to their inspection and study, and will afford object lessons and food for thought. The College would be glad to welcome a hundred such young men to the course.

But as already stated the course is designed for everybody, both old and young, and the older men, who are already in the thick of the fight, who are burdened with the cares and perplexities of active life on the farm, are also heartily welcome. It is believed that they too can profit by this course, even more than the young men, by reason of their more mature judgment. There are hundreds of farmers in the State who could arrange to be absent from their homes for a couple of weeks, and who, aside from the course itself, would find much to interest them at the State Agricultural College. As citizens, they ought to acquaint themselves with the one State institution which, above all others, is designed for their benefit; and those who plan to send their sons and daughters here in the near future could make this an occasion on which to give the institution a thorough investigation as to the studies taught, methods of teaching, and facilities for giving instruction, while they at the same time may be personally benefited by the short course. The College extends a hearty welcome to all. Those who desire more information on this subject should address President Geo. T. Fairchild, Manhattan, Kans. C. C. GEORGESON.

COLLEGE ORGANIZATIONS.

January 12th.
Hamilton Hall was well filled with members and visitors when Pres. Barnett rapped for order at 7:30 o'clock. C. E. Pincomb led in devotion. This being the first session of the term, hence election of officers, the following corps of officers were chosen for the ensuing term: President, C. A. Johnson, Vice President, W. I. Joss; Recording Secretary, C. E. Pincomb; Corresponding Secretary, W. L. Hall; Treasurer, M. L. Heckert; Critic, W. B. Conrad; Marshal, A. W. Staver; Board of Directors, R. J. Barnett, John Pool, G. C. Hall, C. S. Marty, L. W. Hepworth. The election was interesting throughout, there being two or more nominees for each position. J. H. Enloe was elected to membership and initiated into the Society. The hour being late, the literary program for the evening and the one for the week following were carried forward one week. The most prominent feature in new business was a discussion of the practicability of organizing a joint theatrical company. After a considerable number had expressed their views on the matter, the Society decided the plan was feasible and worthy of united effort on our part. Adjournment 10:30. E. C. J.

January 11th.
The first session of the Alpha Beta Society this term opened with an organ solo by Maude Mannen and prayer by Elva Palmer. Ernest Smith addressed the Society on the varied subjects of Chinese, skating, and the future. Gertrude Havens, in a new form of literary subjects for our Society entitled a laudatory, spoke in an earnest and unprejudiced way of the many things deserving praise in our Society. The question, "Resolved, That the majority of the Board of Regents should be chosen from the Alumni," was discussed on the affirmative by R. W. Clothier, and on the negative by Inez Palmer. Guitar solo, Con Buck. An excellent number of the Gleaner was presented by A. C. Peck. After recess the rules were suspended and the following new members were initiated: Ernest Cottrell, Lucy Cottrell, Lulu Daniels, Bertha Ingman, Mr. Clark. The usual interest was manifested in election of officers for the winter term. The following officers were elected: President, J. B. S. Norton; Vice President, Gertrude Havens; Recording Secretary, R. W. Rader; Corresponding Secretary, Nora Fryhofer; Treasurer, A. C. Havens; Critic, E. A. Ridenour; Marshal, E. P. Smith. After the regular business the Society listened to a talk by G. L. Christensen a former president. Adjournment. J. B. S. N.

January 11th.
When the Ionians were called to order for the first session of the term the room was filled with members and visitors. After the opening exercises, congregational singing, prayer by Flora Waugh, and roll call, the program was opened by an instrumental solo by Fannie Hacker. Nannie Williams then read a selection on "Every Woman's Right," which was followed

by Gertie Stump's oration, "Do we know or do we think we know?" Mary Lyman rendered a solo entitled "My Dream." In her extemporaneous speech Mary Norton told of her experience in learning to skate. Then came the debate on the question, "Resolved, That there should be some punishment for misconduct during the Friday afternoon Chapel exercises," argued on the affirmative by Harriet Vandivert and Ada Zimmerman; on the negative by Edith Lantz and Joanna Freeman. The judges, Mr. Painter, Misses Flora Day and Ollie Long, decided two to one in favor of the negative. The program was closed by a piano solo by Gertie Rhoades. The following officers were elected for the ensuing term: President, Ethel Patten; Vice-president, Ada Rice; Recording Secretary, Gertie Stump; Corresponding Secretary, Myrtle Hood; Treasurer, Emma Finley; Marshal, Hope Brady; Critic, Dora Thompson. After report of committees, business, propositions for membership, assignments of duties, critic's report, and reading the minutes, the Society adjourned. E. E. N.

January 12th.
At the appointed time President Smith called to order fifty loyal Websters. A goodly number of visitors was also present. J. C. Wilkin led the Society in devotion. The program of the evening was taken up. It was opened by an interesting discussion on the question, In case no decisive action is taken on the money question at this congress, would Cleveland be justified in calling an extra session immediately after the 4th of March, '95? E. C. Trembly presented the affirmative, and G. C. Wheeler the negative. C. B. Selby gave an address of welcome to visitors and old Websters who are again in classes. We next listened to a well delivered declamation, "The Religious Character of Abraham Lincoln," by F. E. Uhl. E. G. Gibson right well entertained the Society with one of his characteristic essays. It was written in dramatic style on the subject, "What is it?" All agreed that the essay fulfilled its mission—to make us laugh. A Society poem was read by E. H. Freeman, with the Society motto, "Labor conquers all," as a title. It was a thoughtful paper, well written, but, Mr. Freeman said, it had one characteristic of the writer. "It was rather short." A vocal solo, "I Gather Them In," was rendered by J. V. Patten with G. W. Smith at the organ. He was heartily encored, but would not respond. We had scarcely quit laughing over Mr. Gibson's essay when C. D. McCauley, as editor of the Reporter, took the floor. His well illustrated motto, "A Shut Mouth Catches No Flies," made the hall ring, nor was the motto the only funny feature. The number was a mixture of wit, humor, and spicy locals. The titles of some of the pieces were "Science Hall Dedication," "What the Prep Learns," "The Complaining Man," "A. B. Poetry," "Webster Almanac," "An Essay on Rats," and "A Senior's Trials" (Poetry). After a social chat of ten minutes we heard the critic's report, who said he had been so interested in the program that he neglected taking notes and consequently had but little to report. There being nothing under unfinished business, we passed to new business and took up the election of officers. The following members were elected to offices: President, T. W. Morse; Vice-president, F. E. Rader; Recording Secretary, J. B. Dorman; Corresponding Secretary, E. G. Gibson; Treasurer, W. B. Chase; Critic, W. H. Stewart; Marshal, J. R. Henry; Board of Directors, G. C. Wheeler, C. D. McCauley, F. E. Uhl, F. R. Jolly, and H. E. Moore. The lights being turned out, we adjourned, by the light of matches. W. J. R.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

There are now three Lutheran colleges in the State of Kansas: Bethany, in Lindsay; Midland, in Atchison, and St. Johns, in Winfield.

The Kansas City Star claims that water is so valuable in the vicinity of Newton that a farmer has sued the school board for the water used from his well during the past eighteen years.

Prof. O. C. Hill, of Hiawatha, has been appointed as executive clerk by Governor-elect Morrill. Prof. Hill has been a resident of Kansas for fifteen years, is an old soldier, and is the author of several valuable textbooks for use in the schools. He was an intimate friend of ex-President Garfield, and went to school to him when he was a teacher in Ohio.

A number of papers of influence have of late been discussing the proposition to elect the County and State Superintendent at the annual meeting in July instead of at the fall election. The purpose of the proposed change is to divorce the election of school officers from the partisan strife that attends State and county elections. The movement is certainly a good one, and ought to succeed. These affairs, like those of teachers generally, ought to be more permanent and non-political.

Among the resolutions adopted by the State Teachers' Association is one in favor of establishing a county high school in each county; one deploring the growth of the cigarette habit among boys, and asking the Legislature to prohibit its sale to minors; one asking for a law limiting the candidacy for County Superintendents to holders of first-grade certificates; one asking the State Board of Education to revise the course of study in accordance with the ideas of the committee of ten of the N. E. A., and one tending the kindest regards to the retiring State Superintendent in these words: "That to our retiring State Superintendent, Hon. H. N. Gaines, we tender our kindest regards for the uniform kindness and courtesy shown the great army of teachers, and recognize in him an honest, industrious, and conscientious officer and man; and we do now with one accord bid him God speed and success in whatever he may hereafter engage."

Winter is not a good time to do road work, but it is a good time to inspect the road, when not covered with snow, and lay plans for its repair at an early date. Roads need constant watching, and repairs should be made as soon as the necessity arises. Doing the work all at once, and only once a year, is not the ideal method. In France, where the roads are said to be better kept than in any other part of the world, inspection is constant and repairs are going on all the time. This insures a perfection of roadway that is highly appreciated by the farmers that use them.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner. Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan. All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson. Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums. Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents. General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary. The Experiment Station should be addressed through the Secretary.

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POWER THROUGH OBEDIENCE.

BY PROF. O. E. OLIN.

WE are apt to think, in youth, that obedience is an arbitrary requirement; that it is in itself distasteful; that in yielding willingly to the desire of another we are in some measure giving up our own personality and limiting the development of individuality. This is not confined, however, to youth, for there are men and women of various degrees of culture and non-culture who assert that the human being owes no allegiance to any one; that obedience is a sin against self, and that men should be governed only as the planets are—by the balance of attractive and repellent forces.

I shall not argue on the philosophy of obedience. I believe it is the necessary condition of advancement, and instead of being a mark of servility is the badge of power. I believe that "the universe is governed by law,"—what seems to us stern and inexorable law,—and that the only hope of harmony is in entire and universal obedience.

And starting from this point I wish to speak of the power of obedience. First, in a material sense. We gain power over nature just in proportion to our obedience. We talk very proudly of controlling the forces of the world about us. But instead of controlling, we are simply adapting ourselves to their requirements. We cannot force electricity to go one way when its plan is to go another. We cannot make it use a lead pipe when it demands a copper wire. We cannot use it at all until we fulfill all its requirements, even to the most trivial detail. In fact, we control electricity by humbly helping it to do exactly as it has a mind to. But see what power comes with this obedience. Electricity runs our errands across land and sea. It lights our cities, turns our machinery, propels our cars, and is fast becoming the good fairy of the race. Obey it, and you have power incalculable; disobey it, and it mocks you or strikes you dead.

Nature never fails to honor obedience or to exact with pitiless rigor the penalties of disobedience. She says, "Keep away from the water, or I will drown you. Keep away from the fire, or I will burn you. Cling to the earth, or I will dash you to pieces." And only as we learn her laws and obey them can we control water, air, and fire. All the work of pure science is but finding and formulating the laws of nature for the obedience of men. All the work of applied science is learning to adapt ourselves and our materials to the laws that pure science makes known. The long, dark history of failures is the history of man's ignorant or willful disobedience; the record of advancement and civilization is the record of obedience and harmony. Nature is trying to teach us always: quietly if she can, in signs and wonders if she must. In every storm since the creation she has challenged men to use the wind and the lightning. In every famine she has insisted that men should learn the laws of plant growth and fulfill them. In every great disaster she demands that men should obey the laws of life or die.

But we learn so slowly, even where the way is pointed out; and nature can never explain—can only give object lessons. It has unfortunately been the custom of some people to deride scientific methods and "book learning" as being in some way opposed to common sense. Following ignorance or half truth, they blunderingly put forth more exertion in halting movement than need be used understandingly to secure easy progress. Consequently, advance has been slow and along the most evident lines, holding men closely to the crudest material side of life. The present spirit of investigation, the brilliant discoveries, the practical uses found for every new truth, have done much to break down this feeling and put men in the way of learning and using as never before. As a result we see marvelous exhibitions of new power every year, and one hardly dares predict the near future.

Outside the realm of physics the same necessity of obedience is the law of power. Men have been so busy studying the outer world that they have given comparatively little thought to the world within. But now they are going about in earnest and in scientific ways to study the laws of mind itself. Psychological laboratories are now fitted up in the department of biology, and the development of brain and thought is traced through all of animal life. Child study in home and school is now becoming a science. By such means we hope to learn something of the laws of mental growth. These laws being known, we shall adapt ourselves to them—in other words, obey them. Then

our teaching and training will have directness and certainty. We shall call out and lead into fullness the mental activities of the child. We shall know how to arouse the dormant faculties of the mature mind, and, if evolution is true, to develop the rudimentary ones. We shall put into the hands of every one possibilities of enlargement that shall show him in some degree the power of a fully developed man. In this search none of the phenomena of mind are insignificant; force is behind them all. Even the extra-natural ones—hypnotism, telepathy, clairvoyance, psychometry—tell us of yet unknown laws whose wonderful power we shall wield when we can intelligently obey them. It is the business of scientific men to make known the laws of mind as they already have those of matter; and the work of science will not be complete until it puts us in harmony with all of nature's laws, material and spiritual.

There is, too, a strength that comes to the individual through obedience—a strength that may not be manifested outwardly. It puts him in possession of himself. He measures his strength by controlling it, and becomes his own master. This is true individuality. There are men who cannot give up at the right time nor to the right things; and their lives are inharmonious and unsatisfactory. There are men whose lives are full of weakness from lost battles with everything good. Obedience gives to the life a flexibility that is not weakness, a firmness that is not obstinacy, an endurance that is not bravado.

The lesson, then, is the same in every field of effort, in every plane of existence, whether yielding to the laws of gravity or conforming to the eternal law of truth and right, that power comes into the life only through obedience.

The Farmers' Institute Work.

There has been a great deal of talk about farmers' institutes, but in my opinion you cannot say enough in praise of them. Prosperity, progress, and improvement among farmers are to be attributed in no small degree to these gatherings, where we meet and exchange ideas, compare results and experiences, consider and review the causes of success and as well the failures, and listen to instructive papers and discuss important topics. Then, having added to our stock of knowledge, we return home to resume our labor with renewed energy and enthusiasm. Six years ago I attended the first institute that was ever held in this county, and then the silo question came up, and when Director Powell asked for all the farmers who had silos to rise up not one farmer in all that crowd rose. But if that same question is asked at our institutes this winter a great many farmers can stand up and say we cannot afford to be without a silo. This change is from attending these meetings and then putting in practice what their brother farmers had done and told them how to do.

The improvement of stock can be attributed to the institutes, for certainly there has been a great interest taken among farmers to improve their stock of all kinds. The Babcock test has proved that we were feeding cows that were not paying their keep and so now the cows that were running us in debt every year are being replaced by cows that will make twice the amount of butter. By the aid we receive from these dairy instructors we make a far better article of butter, and hence the demand and prices are better.

And so it is all along in the line of farming; and certainly better farming means better farms and better money. At this date it has become apparent even to the indifferent and careless observer that the cultivator of the soil must possess more than ordinary intelligence to succeed. So I say that in all this the farmers' meetings have been of a wonderful help. Let us put in practice what the successful farmers have done, and we shall hear less of hard times and unprofitable agriculture.—E. D. Diston, in *Farm and Home*.

Culture on the Farm.

Why finish our houses with white coat, when the rough brown coat will keep out the cold? Why paint the inside of our homes, with so much expenditure of treasure and labor? Why put large, costly windows in our houses and then cover them almost entirely with two sets of curtains? Why put stripes and figures in our carpets when it costs money to put them there? Why have carpets at all if the floors and walls be tight? Why keep a musical instrument in the house when we play so poorly? Why get up at night and build a fire to keep a few house plants from freezing, when we can buy ten times the amount with the money expended for extra fuel? All these questions may be answered by a close observation of the difference between a cultured and an uncultured youth. We are largely what our environment makes us.—*Missouri Agricultural Report*.

The Farmer of the Future.

The farmer of the past we have read of and heard about; the farmer of the present we all think we know intimately; but the farmer of the future—what sort of a fellow is he to be, anyhow?

A great deal more hinges upon a correct solution of this query than would readily appear in taking a cursory glance at the matter. The present is an era of unprecedentedly low prices, for not only the products of the farm, but also of the mine, the workshop, the forest, and, to a great extent, of the factory. The world seems to be running in the same old groove it has run in for thousands of years, but not so with the inhabitants thereof. At no time in the world's history has brain labor been so abundantly, even lavishly, recompensed for extra exertion on its part than at this writing; while the poorest paid labor, the labor that is, as a rule, able to command the least remuneration, is the labor that produces the cruder products of the earth.

The farmer of the future must be a reading man, a thinking man, a man with attainments so broad that the breadth thereof shall be greater than that of his broad acres. He must be "adaptive" enough to be able to shape himself to circumstances, but should also possess energy, vim, push, determination, and a spirit of go-ahead-iveness and stick-to-it-iveness that shall enable him to override and overcome circumstances when necessary; in short, to control circumstances instead of being controlled by them. At present the American farmer is controlled by others; varnish and gloss it over as you please, this is the plain, unvarnished fact. There is but one remedy for this condition of things, and that remedy consists in educating the farmer so that he shall be found striving to educate himself and his children, and by so doing elevate his calling, his chosen vocation, until the great and noble science of agriculture shall be firmly established on a plane commensurate with its importance to the human race, and on a level with, if not actually towering above, all the other arts and sciences. He must educate himself up to the point where he becomes ready to assert, uphold, and defend his claim against any and all usurpers of that spirit of independence, that inalienable, God-given right that should characterize the intelligent soil-tiller wherever he may be found. Agriculture is the most independent, the most ennobling, the most elevating, the most peaceful, the most satisfactory and happiest vocation that man can choose; but the agriculturist must be educated before it can become all this to him and before he can make of it the high and noble calling it should be.

The farmer of the future should, to a greater extent than the past or even the present generation, be a "sociable" animal, and should be able to appreciate the benefits to be derived from association and the imperative necessity of co-operation and unity, as well as the advantages to be derived therefrom.

Just now there is a great cry of "hard times." Is it because there is a famine on hand? No. Is it because Mother Earth has refused to yield up her treasures to the intelligent, well-directed efforts of the husbandman? Not at all. What, then, is the reason that in the midst of peace and plenty the times are "hard," and this even with the tillers of the soil? My answer would be, scarcity of money.

To this I would say that money is the product of labor, not simply of muscular, physical labor, but also of expert, skilled labor, and that man can create the most wealth who can apply the most thought, the most brain force in the creation of forms of matter for the highest human use. This fact is as true of farming as of any other branch of human industry.

The farmer of the future must be a skilled workman. I mean by this, he must be educated or else be content to lag behind in the march of progress. Intelligent farming, like the intelligent directing of any other industry, will alone insure success. The farmer of the future must have a knowledge, not guess-work, of his business or he will inevitably fail. He must lead or follow, be a farmer or a tenant, an overseer or a hireling. Which shall it be? Depend upon it, it will be the one you fit yourself for. In driving a wagon load of potatoes over a rough road, we see the larger ones always work their way to the top; so it is in the journey of life, the greater the jostle, the more and greater the opportunities for a rise. Persistent, intelligent, and well-directed effort never yet failed to be profitable, and never will. We would hardly call a physician skillful in his profession were he unacquainted with the human system, its anatomy, physiology, pathology, the laws of health, etc., no matter how well he might be acquainted with the various drugs composing the materia medica, their action, uses and doses in health and disease; yet the farmers of today, at least the major portion of them, are in this identical fix. They undertake to produce vegetable organisms for human food, yet are in dense ignorance as to how those plants feed and grow and what they feed upon, as well as the laws governing propagation and the reproduction of each individual species. He undertakes to raise animals of various kinds for human food, yet is ignorant of their anatomy, physiology, the laws of heredity and of health, and of the composition, degree of digestibility, and feeding value of the food they eat. Many of them, indeed, keep no account, consequently cannot tell whether they are keeping their stock at a profit or at a loss. There are many who undertake to maintain and even increase the fertility of their soils by the application of chemical manures or fertilizers, yet are ignorant of the composition of those soils, and of the chemical elements brought to bear upon them by the gases of the atmosphere, etc., and the chemical changes continually taking place within them by the direct and indirect agency of those forces. In one thing they have abundantly succeeded, viz.: in far too many instances they have, in the short space of fifty years, so completely impoverished and exhausted their origin-

ally fertile virgin soils as to render their further cultivation unsatisfactory and unremunerative. To such an extent has the depletion system been carried that, there being but little virgin soil to occupy, the farmer of the future must be a "fertilizer" farmer. He must read fertilizers, think fertilizers, talk fertilizers, and lavishly and yet judiciously apply fertilizers, if he would farm satisfactorily and with profit.

One short century has entirely changed farming as well as farmers. He no longer carries his surplus products to market on his horse, said products being in one end of a bag and a jug placed in the other. Oh, no; he has got beyond that. He lives in a fast, a progressive age. He must "keep up with the procession" and win or lag behind and lose or be lost. Farmers have hitherto depended too exclusively upon knowledge gained from experience and ignored that gained by scientific study and painstaking research and accurate experimentation; and on this account have often, from a lack of knowledge of the true causes of observed effects, wasted both time and effort in a vain attempt to remove causes that had no real existence. The farmer of the future must permit no divorce of what God hath joined together, viz: mind and muscle, brain and brawn; but his mind must be trained for his vocation as well as his hands, knowledge and experience must go hand in hand; he must, in place of ignoring them, call to his aid all the discoveries, the attainments of science; he must draw out and develop those latent mental and moral forces which nature has stored up in his mind, and when this is properly done he will be fitted for the active and honorable duties pertaining to the noblest of all callings, agriculture. A grand future will be opened up before him, whereby he may acquire property by a more liberal use of his intellectual faculties and less slavishness of the body, and attain a far greater degree of success and material well-being than would probably await him in any other vocation.

Education, intelligence, industry, frugality, economy, perseverance under difficulties, and a determination to succeed in spite of all obstacles that may come in the way, are the seven stepping stones to success in any calling. They are a perfect panacea for "hard times," "financial stringencies" and other pecuniary ills that flesh is heir to. But, above all, live within your income and shun debt as you would a pestilence. Debt is the greatest curse the American farmer has to contend against today, and if the spirit of independence that should characterize every soil-tiller is to extend to the farmers of the future, and not die out with the present generation,—in short, if the farmer of the future is to be a home-loving, home-owning, free and independent American citizen, instead of a tenant or a hireling, let him stay out of debt!—G. H. Turner, in *The Clover Leaf*.

Selecting Remedies for Unprofitable Farming.

In order that one may work with certainty and efficiency for the removal of ills of any kind or degree, it is necessary to first learn the causes which have brought about the unfavorable conditions from which he is suffering.

One of the contributors to the Department of "Mistakes and Failures" has illustrated this principle in a communication which appeared in the *Practical Farmer* of last week. Mentioning his want of success, he says: "I thought the tariff was at fault, the railroads to blame, and things generally going to the bad." But after reading agricultural papers, attending a Farmers' Institute, and giving careful thought to the subject, this farmer found that the larger part of his troubles were not due to the tariff, or the railroads, or a demoralization of things in general, but came from his own faulty methods and practices. And it is interesting to note, without any improvements in the tariff, or the railroads, or in the general condition of affairs in the country at large, he has so changed his processes that he is making money, and things present to him a much more rosy hue than they did before he found what it was that caused his troubles.

Doubtless there are a great many farmers who hold the same views as this contributor formerly entertained. They are not getting along well, and they blame the tariff, the railroads, the currency, or something else that is far outside their farms and homes. It is probable that to some extent the opinions which these men have formed are correct, but it is equally probable that outside influences are given too much weight. In a country like the United States, the vast majority of farmers can secure a fair degree of success if they will adapt themselves to existing conditions. Most of those who now complain work hard enough, but they do not always direct their labor as wisely as they might do, or as they would do if they would take time to read and study more, and would let the mind help the hands. Though the Government can do much to help men who are alert and skillful in their work, it can do very little for men who choose to float with the tide. It is as impossible to legislate men into prosperity as it is to legislate them into morality. If he is to be prosperous, the farmer must depend much on himself, and but little upon the Government for success.

Though a spirit of self-reliance is needed, the farmer should not be indifferent to current events. As a citizen he should be interested in all the great questions of the day. But as a farmer, he should realize that success, if secured at all, must be won mainly by his own efforts. If he keeps well informed as to agricultural principles, and follows the best methods of farm practice, neither legislation, nor monopolies, nor railroads, nor any other power or influence will keep him down. But if he neglects these principles, and ignores these methods, he will not be able to secure legislation or anything else that will give him the success which he desires.—*Practical Farmer*.

FARM NOTES FROM VARIOUS SOURCES.

Keep an eye on the market reports.

It is easy to stunt a growing animal, but by no means easy to undo the evil.

Attend the farmers' institutes. Keep in touch with the advanced ideas of the day.

A good brood sow is one of the most profitable animals on the farm; treat her as such.

A well-stocked farm is easier kept in productive condition. A fertile soil is essential to good farming.

A defective hoof will ruin a horse more quickly than anything else. Have an understanding with your blacksmith.

Diversified farming is the safest. But give most attention to the crops that pay the best, if any discrimination is made.

The leading markets tell the same story—a surplus of scrub stock and not enough thoroughbred. A good moral lies hereabouts.

Better roads are needed in your community; they will increase the value of your farm. Do not be "pennywise" in this matter.

The farmer of today must be a business man. Have you an inventory of your assets? and do you keep an account of your receipts and expenses?

Do not neglect your vegetable garden. No other portion of the farm is a better paying investment. Keep some of your luxuries for the home table.

Begin right by getting good stock, and continue right by giving them good food and proper care. This is good management and the only roadway to success.

The farmer need never worry about lack of work to do. For hands and brains there is steady employment the year around, if he will but see it, and there are endless resources for making a little money even during the hard times.

No well-regulated farm is without its flock of thoroughbred poultry. There is, in fact, no better paying stock, taking into consideration capital and money invested. Keep also turkeys, ducks, and geese. They are all profitable on the farm.

It may be possible to take off profitable crops and maintain the fertility of the land without the aid of stock, but the average farmer cannot do it. Selling from constantly and restoring nothing to the land is only selling the farm away piecemeal.

Interest the boys in the farm, by either giving them land to manage or stock, as their own, and then do not rob them of their just dues. Pay your boys something for their labor, and you will not have to tie them to a tree to "keep them on the farm."—W. M. Barnum, in *New York Tribune*.

The bicyclists have proven themselves a boon to the farmers, as it is chiefly owing to their ceaseless and strenuous efforts that so much has been done toward arousing the road commissioners to a realizing sense of the bad condition of most of our country roads, and urging them into action toward their immediate improvement.—*Agricultural Epitomist*.

"The man who will take this paper a year, and profit by the information it supplies, will save more money than it would take to buy a yearling steer." There is nothing truer. Ask any farmer who has read a good agricultural paper for a year if he would take a yearling steer for what he had learned from it, and the answer would be no. Papers are very cheap. The egg product of one hen would pay the subscription to one or two first-rate farm papers. Raise one more hen.—Galen Wilson.

It may be said that the farmer and his busy wife have not the time to devote to beautiful things. But I find it almost universally true that the busiest man is the man that has the most time, while the idle vagrant never has time for anything. I will suggest that if one-tenth of the time usually idled away in aimless talk and amusements was spent in ornamenting the premises, there would be seen all over this fair land neat, cosy homes, where now the yards are used as pastures for calves and pigs.—G. A. Smith.

It should ever be remembered that improved methods of farming does not and should not inevitably imply larger production of crops in the aggregate, with corresponding reduction of labor. They mean that the same quantity will be produced at a less cost. It is possible for five acres to produce as much as ten now do, for five cows to make as much butter as the ten now on hand, for a given quantity of feed to make double the beef it is now producing. Evidently the world does not want more farm products, but the farmer needs to produce them at less cost.—*Farm, Stock and Home*.

The representative 1895 farmer is as good as any other man and the best in methods, varieties, tools, etc., is none too good for him. He will be satisfied with nothing short of this. During these long winter evenings he reviews the past and plans for the future, sizes up his failures and measures his successes. Conservative in calculation, he is planning little experiments all along the line. Being neither a "grab all" nor a "know all," he is generous in every good work, remembering that giving to the worthy poor is lending to the Lord, and is storing his mind with useful knowledge by reading good books. He isn't too "stuck up" to profit by the wisely told experience of his brother farmer, or institute, grange, or farmers' club, but more especially through the columns of that silent though influential guest at the fireside, the wide-awake farm paper.—Geo. T. Pettit, in *Agricultural Epitomist*.

Calendar.

1894-95.

Fall Term—September 13th to December 21st.
Winter Term—January 8th to March 29th.
Spring Term—April 1st to June 12th.
June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

G. G. Boardman drops out of the Fourth-year class to edit a Centralia paper.

The Board of Regents will meet on Tuesday, February 5th, at three o'clock P. M.

Prof. and Mrs. Hood are made happy by the arrival at their house of a son on Sunday.

Josie Finley, Third-year, will be kept out of classes this term because of an injury to her hip by a fall when skating.

Capt. Cavanaugh is again at his post after a severe attack of inflammatory rheumatism which confined him to his room for ten days.

The first snow of the season—about an inch—fell Sunday night but soon disappeared. It was followed yesterday by a fall of four inches.

Secretary Moody of the State University spent some hours with Secretary Graham on Friday in comparing methods and "talking shop."

M. A. Limbocker, Fourth-year, an enthusiastic as well as a successful fancier, found much pleasure in a day's visit to the Poultry Show at Topeka.

Regent Hoffman will give an address in the short lecture course for farmers on "Farmers' Wives." Regent Kelly will speak on "The Science of Money."

Secy. Graham was called to Topeka on Thursday to attend a meeting of the Executive Committee of the Kansas Academy of Science of which he is Vice President.

Members of the State Legislatures of Wyoming and Missouri have written for information concerning this College and Experiment Station for use in establishing or remodeling like institutions in those States.

Mrs. Kedzie's paper before the American Association for Advancement of Science, on, "The Teaching of Domestic Science in an Agricultural College" in the *American University Magazine* for December. The article is illustrated by a picture of the main building and a tail piece entitled "The Class Serves a Breakfast to the Faculty."

Commenting on the Farmer's Institute held at Gardner, Johnson County, last week, the *Kansas City Stockman* says: "Possibly the strongest and most practical paper delivered during the two days' session was that of Professor Walters, of the Kansas State Agricultural College. This address the *Stockman* will place before its readers in due course."

Mr. N. O. Waymire of Garfield reports that the soy beans sent him last spring "beat anything in the bean line that he ever saw. They grew upright and were heavily set with pods which ripened up evenly. This without irrigation." Other farmers in the same County tried the soy bean, but the jack rabbits "ate them off after two or three pair of leaves had set." This plant promises well as a forage and grain crop for the semi-arid regions.

A business meeting of the Y. M. C. A. was held Wednesday evening. After prayer, eleven new members were voted upon and admitted into the Association. A number of Bible classes were organized for doing more thorough work. The Association moved a vote of thanks to Mr. Baxter for his kindness in opening and closing the building for the Sunday afternoon meetings. The young men appreciate Mr. Baxter's genuine interest in them.

The *Kansas City Live Stock Indicator* publishes the program of the Short Course in Agriculture and the Farmers' Institute dates, and comments as follows: "It will be seen from the above that the College is doing its level best, as in fact it always has done, to aid the farmers of Kansas in their labors and to give them every opportunity to gain practical information at the College and at the different places where the institutes are held throughout the State. It is doing a most excellent work, which should be highly appreciated by the Kansas farmers."

The subject of the lecture in Chapel yesterday afternoon was "Profit." Prof. Will defined profit as the reward of the employer in excess of such wages of superintendence as he could command if superintendent, or boss, on salary. The employer has been a necessary factor in building up our civilization. He has organized capital and labor and increased the efficiency of both by the introduction of the best machinery and the most economical methods. He discovers and seizes opportunities for business ventures, organizing capital and labor to carry them on. The industrial system is gradually being perfected. He who best adapts his methods to the demands of the times succeeds, while others, including not only such as may be behind the times, but too often those who are ahead of their day, are mercilessly swept from the field. Personal gain is the business man's incentive to action.

But where does the profit come from? The employer, or "Captain of Industry," is not only a worker, but he is a high-grade worker. Ordinary laborers can produce some wealth without him, but by his organizing and controlling ability they are enabled to produce vastly more. From another standpoint, the "Captain of Industry" appears in many instances not simply as a producer, but as an exploiter. By his superior knowledge of values and affairs in general, he may exploit the capitalist, the landlord, the laborer, or his fellows. He may rent land, borrow capital, and hire laborers at rates below what his business justifies, and keep the surplus as a reward for his superior knowledge. Viewing him broadly, the employer may be a producer on a large scale; but on the other hand he may be a free-booter on as large a scale. There are many grades of employers. Some get less, some about the same, while others make much more than the wages they could command as superintendents or bosses in the employ of others. When competition is free, profits in all kinds of business tend to become the same. But this levelling process takes some time, and during this time, "an industrial storm is raging." During this storm the business man grabs all he can get, and keeps competition out as long as possible. Can we rid society of the employers? Because a "Captain of industry" resembling a monarch has long existed, must he always be kept? Compare the social organism with the physical organism. If the stomach is in good condition, it goes on working without our planning, but other processes need constant attention. In the social organism, there is a tendency for some industries to become mechanical and to run themselves. In such cases, the hired superintendent is fast taking the place of the "Captain of Industry." But in others there is now and will for a long time be need of an employer. Though he may come high, we must have him.

GRADUATES AND FORMER STUDENTS.

Byron Pound, Second-year in 1889-90, is night fireman at the College.

H. L. Pellett, '93, has entered the Department of Electrical Engineering at the State University.

W. O. Staver, '94, is reading law in Kansas City Mo. His address is 820 New York Life Building.

G. L. Clothier, '92, for two years past Superintendent of Public Instruction in Wabaunsee County, is at College again for post-graduate study in botany and horticulture. He expects to spend two years here.

C. W. Earle, '90, has been lying ill of pneumonia since the first of the year, but reports himself all right now and promises a visit to his Alma Mater in a few days. He is still in a flourishing business in Denver, Colorado.

Rev. A. J. White, '74, who was so seriously injured in a runaway accident last fall, is still in a serious condition. He was thrown from the buggy and alighted on his head against a curbstone, and it is feared that his recovery will be but gradual.

Marie Senn, '90, Instructor in Domestic Economy in the North Dakota Agricultural College at Fargo, has taken part in several Farmers' Institutes this year. A local newspaper says of a paper recently read by Miss Senn at a farmers' meeting: "After the music came the address of the evening by Miss Marie B. Senn on 'Domestic Economy.' Miss Senn's was an eloquent and forcible address, urging the necessity of educating the young ladies of the American country in those arts which constitute their life work. To make themselves useful, they must be posted in the art of cooking and housekeeping. Miss Senn was enthusiastic in her talk of promoting the welfare of the American women of the future, and many remarked that hers was to their minds the most intensely interesting discussion of the day or evening, but as the reporter was called away during the remainder of the evening we are sorry to say we could not get any part of it for publication."

At a recent meeting of the Leavenworth Art League Mrs. Bowen [67], of Manhattan, gave the members a very interesting talk on the origin and aims of the Domestic Science Club of her city. Incidentally she mentioned the practical instruction given at the State Agricultural College, the girls being taught to sew, knit, cook, etc. Mrs. Bowen's spirited account of the interest taken in the work, so much at variance as it is with the usual results of home instruction of the same kind, made many converts to the much-talked-of necessity of putting industrial education within the reach of all. Yet cooks are born, not made. The girl who devotes herself to music with patience and earnestness, or who paints a flower beautifully and truthfully, may be trusted always to serve wholesome food in an orderly manner; and if her forte be cooking, will serve appetizing messes and delectable dainties in spite of her music or her painting.—*Leavenworth Art Chronicle*.

College Extension Notes.

The Farmers' Institute at Gardner, January 17th and 18th, attended by Prof. Walters and Dr. Mayo, was one of the most enthusiastic and profitable meeting ever held in the State. The Secretary estimated that the six sessions were attended by more than 1,400 different persons, most of them remaining during the two days. The program was rich, the subjects well handled, and the discussions spirited and to the point. Among the many good papers presented may be mentioned one on "The Future of the Cat-

tle Industry," C. McLain; one on "My Early Experience in Kansas," E. A. Carpenter; and one on "Political Economy from a Non-partisan Standpoint," by I. D. Hibner. Of the subjects presented from notes, the writer remembers as especially good, "A talk on Orcharding," by Mr. Carter of Baldwin; "How to most successfully Dispose of Milk," by C. M. T. Hulett (a former student here), and "Hog-raising," by Hon. C. M. Dickson. The Presbyterian choir was present during the whole session and rendered a series of selections, while a number of farm boys and girls interspersed the discussions with interesting recitations. The farmers about Gardner have held such annual sessions for fourteen years—sometimes at Edgerton and sometimes at Wellsville—and the Agricultural College has given them assistance nearly every year. Both parties have just cause to point to this work of College extension with pride and satisfaction. J. D. W.

From the Entomological and Zoological Department.

Eighty-two students enrolled in zoölogy occupy the attention of Professor Popenoe during the first, third, and fourth hours.

J. E. Taylor, '94, is still interested in entomology, and adds by exchange to the College collection and to his own already valuable collection of coleoptera.

C. D. Adams is again enrolled as a special student in entomology, this being the fifth term he has spent in that line. He is engaged in reclassifying his private collection, which is a large one and contains many southwestern species.

G. C. Wheeler, also a special student in entomology, spends many spare hours in the study of the classification of hymenoptera.

Assistant Marlatt spends part of his time in the preparation of skulls of birds and mammals for a collection which is fast growing in numbers and interest.

The department gratefully acknowledges the gift of a skull of the Rocky Mountain Bighorn presented by Mr. Ross J. Warnock of Dickinson County, through W. H. Phipps. It is valuable not only as a specimen which the collection has not heretofore contained, but also as an evidence of the interest of Mr. Warnock in the growth of the museum and College.

The mounted deer and elk, and a number of cases of bird's eggs and shells, moved during vacation, attract the attention of visitors in the new museum.

Sixty-two bird skins have been added to the museum since the beginning of the fall term, a few of which have been mounted. Nearly all were prepared by G. B. Norris.

Two live opossums, purchased by Professor Popenoe not long since, showed a tendency for strong drink by upsetting a jar of fishes preserved in alcohol and proceeding to get drunk on the contents, from the effects of which one has since died.

The handsome oil painting, representing a Mexican landscape, admired by all who visited the office during the first of the term, is the property of Professor Popenoe, and was purchased by him from the artist Geo. Stone of Topeka, during the holidays.

An offer from a western trapper to furnish specimens of the fur-bearing animals and many other valuable specimens at reasonable prices, has been received by Professor Popenoe, the only drawback to its acceptance being the lack of funds for this purpose. BERTHA KIMBALL.

FARMERS' INSTITUTES.

Held Under the Auspices of the Agricultural College.

Institutes will be held at the places and dates as stated below, and the College will be represented at these institutes by the members of the Faculty named:—

Garden City, Finney County, January 29, 30, and 31; Professors Mason and Hitchcock and Mr. F. W. Dunn appointed.

Lakin, Kearney County, January 31 and February 1; Professors Hitchcock and Mason and F. W. Dunn appointed.

Stockton, Rooks County, January 31 and February 1; Professors Graham and Will appointed.

Oak Grove, Shawnee County, February 6, 7; Prof. Walters and Mr. Sears appointed.

Hutchinson, Reno County, February 7, 8; Professors Hood and Graham appointed.

Russell, Russell County, February 7 and 8; Mrs. Kedzie and Professor Mason appointed.

Peabody, Marion County, February 14 and 15; Professor Popenoe and Mrs. Kedzie appointed.

Clay Center, February 15 and 16; President Fairchild and Professor Lantz appointed.

Haven, Reno County, February 21 and 22; Professor Mayo and Mr. Burtis appointed.

Cherryvale, Montgomery County, February 21 and 22; Professors Popenoe and Georgeson appointed.

Gaskill, Washington County, February 28 and March 1; Professors Walters and Mason appointed.

WaKeeney, Trego County, March 1 and 2; Professors Georgeson and Graham appointed.

Short Course for Farmers.

The program for the Farmers' Short Course has been completed. The course begins Tuesday, February 5th, and ends on Saturday, February 16, with three lectures every day, except Sunday, as set forth in the program given below:—

TUESDAY, FEBRUARY 5th.

1:30 P. M. President Fairchild, Intellectual Growth in Farm Homes.

3:00 P. M. Professor Failyer, Origin and Properties of Soils.
WEDNESDAY, FEBRUARY 6th.
 10:30 A. M. Professor Hitchcock, Fungous Diseases of Field and Garden Crops.
 1:30 P. M. Professor Popenoe, General Considerations in Economic Entomology.
 3:00 P. M. Professor Georgeson, Origin and Characteristics of the Leading Breeds of Cattle.
THURSDAY, FEBRUARY 7th.
 10:30 A. M. Professor Lantz, Agricultural Literature.
 1:30 P. M. Professor Georgeson, Principles of Selection and Breeding Live Stock.
 3:00 P. M. Professor Mayo, Some Hereditary Diseases of Animals.
FRIDAY, FEBRUARY 8th.
 10:30 A. M. Professor Hood, Pumps and Power.
 1:30 P. M. Professor Failyer, Water for House Use.
 3:00 P. M. Professor Popenoe, Farm Insects.
SATURDAY, FEBRUARY 9th.
 10:30 A. M. Professor Willard, Nitrogen in some of its Relations to Agriculture.
 1:30 P. M. Professor Hitchcock, How Plants obtain their Food.
MONDAY, FEBRUARY 11th.
 10:30 A. M. Professor Mayo, Parasitic Diseases of Animals and Their Treatment.
 1:30 P. M. Professor Mason, Propagation of Orchard Trees.
 3:00 P. M. Professor Walters, The Home Lot.
TUESDAY, FEBRUARY 12th.
 10:30 A. M. Professor Georgeson, Principles of Feeding Live Stock.
 1:30 P. M. Professor Kedzie, Meats.
 3:00 P. M. Professor Popenoe, Beneficial Insects.
WEDNESDAY, FEBRUARY 13th.
 10:30 A. M. Professor Will, Money. I.
 1:30 P. M. Professor Graham, Farm Accounts.
 3:00 P. M. President Fairchild, The Farmer Makes His Farm.
THURSDAY, FEBRUARY 14th.
 10:30 A. M. Professor Mason, Varieties of Vegetables for the Farm Garden.
 1:30 P. M. Professor Mayo, Contagious and Infectious Diseases: Their Cause and Prevention.
 3:00 P. M. Professor Georgeson, Necessity for Maintaining the Fertility of the Farm.
FRIDAY, FEBRUARY 15th.
 10:30 A. M. Professor Mason, Soil Management and Irrigation in the Garden.
 1:30 P. M. Professor Hitchcock, Relation of Plants to Climate.
 3:00 P. M. Professor Will, Money. II.
SATURDAY, FEBRUARY 16th.
 10:30 P. M. Professor Georgeson, Home Dairying.
 1:30 P. M. Professor Mason, Fruits for Home Use and Market.

COLLEGE ORGANIZATIONS.

January 18th.

The Ionians were called to order by President Thompson. After singing, Louise Spohr led in devotion, which was followed by roll-call. Installation of officers. Valedictory by ex-President Thompson. Inaugural address by the President, Miss Ethel Patton. Miss Tavis was initiated. The program was opened with a vocal duet, by Misses Helder and Selby, Miss Leicester at the piano. In a discussion Laura McKeen gave a number of words of advice to the Ionians. Miss McHugh next favored the Society with a declamation, telling in a very pleasing manner "A Fisherman's Story." A parliamentary quiz by Ada Rice following, showed an improvement in Ionian knowledge of Robert's Rules of Order. An impersonation by Tacy Stokes created much laughter, and she is indeed to be complimented on her imitation of "A Tom Boy." Florence Corbett's oration, "A Nobler Life," brought to memory the story of "Old Mother Hubbard." The news of the past week as given by Winifred Houghton. This closed the program, and after an interesting business session the Society adjourned. M. H. H.

January 18th.

At the usual hour a large number of members and visitors assembled in the Alpha Beta society room, and were called to order by Pres. Phipps. G. W. Fryhofer led in devotion. The officers elected for the ensuing term were then installed. The retiring President appointed Mr. Peck to escort Mr. J. B. S. Norton to the chair, after which ex-president Phipps in his own interesting way responded to calls from the Society for the valedictory. Pres. Norton then gave his inaugural address, after which every member felt that there need be no falling below the standard reached under the previous administration. The Society then listened to an essay read by Mr. Spaulding. After a well read humorous selection by Mabel Anderson, Mr. E. Shellenbaum delivered in a forcible manner a selection from one of Webster's orations. An interesting essay entitled "Discovery and Settlement of Central Kansas" was read by Mr. Rumold. The question, "Are Strikes Beneficial to the Laboring Class?" was discussed by A. C. Havens and Mr. McCullough. The Gleaner was edited by Clare Wilson. After recess the order of extemporaneous speaking was taken up. As the members of the committee had prepared no questions, each introduced a subject by a two-minute speech. A lively discussion by many of the members followed. During the transaction of business an interesting letter to the Society from Geo. W. Wake of Salina, Utah, was read. Mr. Wake was a member of the Society in '74, and he gave an interesting account of its early history. After the assignment of duties, reading of minutes, and report of critic, the Society adjourned. N. F.

January 19th.

The roll-call of the Hamilton Society showed but few absentees. Prayer by S. Robbins. The following officers were inaugurated for the ensuing term: President, C. A. Johnson; Vice President, W. I. Joss; Recording Secretary, C. E. Pincomb; Corresponding Secretary, W. L. Hall; Treasurer, M. L. Heckert; Critic, B. W. Conrad; Marshal, A. W. Staver. The retiring President, R. J. Barnett, being called by the Society, expressed his thankfulness for the support given him, and acknowledged his appreciation of having again the rights of a member. President Johnson's address was brief but timely, pledging his earnest efforts, and inviting the co-operation of all members to the best interests of the Society. Declarations by F. Yoder and H. W. Rogler, though differing in nature, were pleasantly delivered. C. Mansfield related a very thrilling encounter in killing the worst

bear he ever saw. "Resolved, That the study of Greek and Latin classics is essential to a liberal education," was debated in the affirmative by A. P. Carnahan and C. B. Ingman, who argued that the mental training obtained in such studies is invaluable; that the ablest men are classical scholars; and that the best schools provide for thorough courses in Latin and Greek. On the negative C. S. Marty and W. J. Cooper said that a thorough knowledge of one language is far better than a smattering of many; that we have in English translations of all good foreign literature, and that Latin and Greek are accomplishments rather than principles of education. The decision of the Society was given to the negative. B. W. Conrad with guitar, and J. V. Patten with mandolin put the Society in very fine humor by two selections of music. "Boards of Trade," was the subject of C. Doane's oration. He showed clearly the evils that exist under the lead of these institutions. G. A. Dial gave a select reading. Under the head of discussions, R. S. Kellogg explained by blackboard illustrations the workings of a gasoline engine, and answered several questions as to its construction. A varied and interesting business session, interspersed with much parliamentary practice, was interrupted by the going out of the lights which caused a hasty adjournment. W. L. H.

January 19th.

The Webster Society was called to order by President Smith. After inauguration of officers, President Morse, in his inaugural and President Smith in his valedictory, among other good things, reminded us of our duty to society. Three members were initiated. The question, "Would it be a benefit to students to have compulsory P. M. abolished?" was argued by R. W. Bishoff and F. J. Smith on the affirmative, and F. E. Rader and Geo. Forsyth on the negative. The affirmative argued: "Many students come with some vocation, but had to give up two terms for 'P. M.' which was useless to them. It always creates ill feeling in that the work is not practical, though horticulture is somewhat; those that want it would like it as a special; shirking develops ten-fold with no interest. It was suggested to place 'special' instead of compulsory 'P. M.' and make it purely instructive, as, 'It is neither pleasant nor instructive to carry ruminants.'" The negative upheld: "This is an Agricultural College, and the theories taught are put in practice to make us what we are; on account of aversion to farm work, 'P. M.' should be compulsory; it is a benefit in giving exercise and open air to the workers; teaches better ways of farming." The negative thought, "currying ruminants is instructive in that some never did the like at home." Decision in favor of the affirmative. J. V. Patten and assistant handled the "Baby Elephant Waltz" amusingly on the mandolin and guitar. J. B. Dorman recited Bill Nye's "New Fangled Boiler Stove," "fearfully and wonderfully well." It was followed by a good declamation by S. T. Morse. J. B. Harman gave an instructive historical production on "Mohammedam," Wilkin's and Hull's simultaneous discussion on "cats" and "dogs" was too real to record. E. G. G.

Farmers as Grumblers.

Farmers, whether rightly or wrongly, have, from time immemorial, been set down as chronic grumblers. The charge, we fear, is true in many cases, but we doubt whether, after all, farmers grumble more than any other class of men. We are all very much too apt to grumble if everything does not go just as we wish, and, therefore the singling out of the farmer as the most representative grumbler seems to us like a calumny on him.

It is urged against the farmer that he is always grumbling about the weather. Well, if he is, what profession is there whose interests are more affected by the weather than his are? Favorable weather is a necessity to him all through the season, from spring to winter. Without favorable weather he cannot prepare his land for his crops; without it he cannot sow them. Cold and stormy weather hinders the growth and development of them, and oftentimes greatly damages them while they are being harvested. What other profession is so dependent on the weather?

Another subject on which the farmer is prone to grumble is the prices of farm products. Here, surely, is something in which others can sympathize with him. The prices obtained for most farm products are low at the present time, and give him but small returns, as compared with those obtained some years ago. There is this to be said, however, that prices of the necessities that he has to buy have also gone down, though not in proportion, we believe, to the prices of farm products. The introduction of improved machinery and labor-saving devices would, however, be something further in the farmer's favor. On the whole, nevertheless, we can all sympathize with him as regards prices.

There are some farmers, however, with whom we can not sympathize. These are the ones who think they know everything, who have gone on in the same old way all their lives, and will not try to adapt themselves to improved methods of farming, even though they see their more enlightened neighbors making money by so doing, while they are not; but spend their time bemoaning their fate, and recalling the good old days when wheat was \$2 a bushel. These do not deserve sympathy, any more than the merchant would who tried to run his store on old fashioned principles. No; farming, nowadays, must be conducted in an intelligent manner, and to suit the times. When a farmer tries to carry on his farming operations on these principles and fails to succeed, he is a meet subject for sympathy, and no one can complain if, under the circumstances, he grumbles just a little.—*Canadian Farm Journal*.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums. Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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THE SCALE INSECTS IN KANSAS.

BY PROF. E. A. POPENOE.

IN these columns and elsewhere the writer has already called attention to the existence of species of scale insects in threatening colonies within the limits of the State; and the occasional discovery of colonies of other dangerous species emphasizes the necessity of prompt action in destroying those already established, as well as the prevention of their natural or assisted spread.

It is not supposed that the species noted below are restricted to the plantations from which we have our information of them. They are severally widespread sorts in their range, and it would be strange if they do not occur in numerous localities in our own State where trees have been brought in from infested regions. But it is necessary to call attention to these pests repeatedly, and to awaken intelligent action against them in the beginning, if we are finally not to be overrun with them.

In general, it may be said, that the scale insects live on the bark or leaves of the infested plants, sucking the juices, and, where numerous, reducing the plant to the most unprofitable condition, or in time killing it entirely. They are called scale insects because the body of the adult, especially in the female, is covered and protected from ordinary attack by a concave scale like the upper shell of a tortoise, secreted as the insect grows, and fitted close to the bark or leaf. Under this scale the eggs remain as left by the death of the female, whose body contracts and dries up in the forward part of the cavity. The period of life of the common species is a single year, the scales remaining on the tree over winter; and on examination showing at this season only a mass of perfect eggs beneath. Others are several brooded. At the proper time in the spring or summer, the eggs hatch, and the active young emerge from the parental shelter and run about over the tree, seeking fresher growth, upon which they presently settle, sucking the sap, and soon beginning the formation of a scale, after which they remain permanently attached to one spot. As the eggs are very numerous, the young frequently fill all available space on the bark of the new growth, the adult scales often being in contact or even overlapping. The appearance of infested plants in extreme cases is not only unclean and crusted as with some scurfy deposit, but, as would be expected, under the constant pumping out of the sap, the green parts are turned yellow or brown, and the whole growth is greatly stunted.

When the scale has reached some size it is practically useless to apply any wash or spray for the destruction of the insect, as washes sufficiently strong to destroy the scale would doubtless seriously injure the plant also. But the active, newly hatched young lice are easily killed in most cases by the application of kerosene emulsion in moderate strength. It is necessary to watch closely for the hatching, as the young are at first very minute and would be overlooked in ordinary examination. Moreover, the eggs do not all hatch at one time, and those still unhatched would be protected by the scale from an application that would destroy the young already out. Hence, a second or perhaps even a third application of the same character may be necessary to do the work of destruction thoroughly. This should not deter from the proper application as the pest, once routed, is kept out with but little effort.

Of the prominent species of scale lice, we have already noticed in print the presence of one of the most important in a Crawford County orchard, which, as shown by recent information, is rapidly spreading through that orchard from the few trees first infested. The species here is the oyster-shell bark-louse of the apple, not usually found in the southwest, but a great pest through the northern and northeastern States. It attacks the apple tree, and may be brought in on nursery trees from eastern points, though unless through gross carelessness in the nursery man it is not very likely to gain such advantage in its spread.

Another important species has been recently brought to our notice by a Reno County horticulturist, who sends specimens of leaves from the white pine, the Austrian pine, and others, thickly set with the scales of the pine-scale insect. This species, he states, has gained a foothold on pines of several species in his plantation, the manner of its introduction not being known. The scales of this insect are narrow, elongate, and silvery white, hence very conspicuous, though individually not very large. It is apparently restricted to the species of pine, the red

cedar growing alongside being free from attack. It is said to be two brooded.

A third scale to be kept in check is the cottony maple scale, which not being restricted to its name-plant, attacks to a serious extent other trees of greater value. A marked increase of this species we noted a few years ago at Sterling, where the plums of native origin in a small orchard were seriously infested with them. This scale is far more conspicuous than the two preceding, from the development of abundant white cottony down in the full-grown insect, giving the infested branch the appearance of being thickly coated with the white growth.

A species much more formidable, apparently, than any of the above—the San Jose scale—is receiving much attention through its discovery in numerous well-set colonies in the Eastern States, and it can only be a question of a short time, unless more than usual oversight be had, until we shall have to report it in Kansas. This scale is especially to be dreaded because of its rapid multiplication, and because of the comparatively wide range of its food habits, most fruit trees and shrubs, as well as common ornamental plants, being subject to its attack. As individuals are often found upon pears and other fruits commonly subject to distribution through our markets, it is only necessary to be careless in the handling of imported fruit to bring this pest into our own gardens and orchards. To assist in recognition of this insect it may be described as a flattened, circular, scurfy looking scale about 1-16 inch wide, with a dark point at or near the center, and of a grayish or darker color, sometimes not much different from that of the bark on which it rests. On a ground of lighter color, the spot on which the scale rests is generally surrounded by a ring of a more or less distinct purplish shade. A scale showing these characters is without much doubt of this dreaded species, and infested material should either be destroyed at once or disinfected in a most thorough manner.

HOW AGRICULTURAL IS THE KANSAS STATE AGRICULTURAL COLLEGE?

BY PROF. HOWARD M. JONES.

TWENTY years ago jealous eyes looked upon a young intruder—the Agricultural College. The educational field was already well-filled; the "old line" institutions did not propose to have their claims "jumped" by any youthful interloper. The "professor of plowing" joke was then in its prime, and the old saw, "What place has rhetoric in hog-calling?" had not lost its edge. The old-time objector would have had every man who was not to speedily return to his plowing and his hog-calling believe that the Agricultural College was the place to keep away from. That objector has long since been silenced by the recognition generally accorded to the solid work done here in mathematics and science; students leaving here and entering elsewhere at once taking honorable rank.

But times change! With the swing of the pendulum comes a new objection, namely; the course here is largely paralleling the courses given in the excellent universities and colleges of Kansas and neighboring States, hence, due to the relatively small portion of the course distinctively agricultural, the reduplicating of State institutions is unwarranted, wasteful. It is proposed from the standpoint of an objector to a distinctively agricultural college to ask the question, "How agricultural is the Kansas Agricultural College?"

Certainly the name is conceded, and as to location the doubter would be converted by a walk about the beautiful college farm. On the west and north are the fields given up to experimental farming; the gardens, vineyard, nursery, and orchards will repay a visit. The admirer of good stock would be rewarded by an inspection of the college barn.

But passing to more important matters, the personnel of the College is strikingly agricultural. Four of the Regents now reside on farms. The President grew up on a farm. A large majority of the members of the Faculty spent much of their early life on the farm, or in the rural communities. A goodly number of them were educated in Agricultural Colleges. This College numbers no less than fifteen of its own graduates among the Faculty and corps of assistants. Moreover, 70 per cent of the students come from farm homes. In personnel this is a farmers' college.

As to curriculum: The fundamentals of an education are as essential here as in any college. Elim-

nating the mathematics, sciences, music, military drill, language, etc., etc., taught elsewhere, what distinctively agricultural remains? The industrial system is characteristic. Every under-graduate, male or female, is expected to do manual labor every day of the course. Here is offered a wide range for election: carpentry, blacksmithing, moulding, working in the machine shops, on the farm, in the garden, the nursery, the printing office, the kitchen, and the sewing room. Yet every young man works at sometime in agriculture and horticulture, and every young woman in kitchen and dairy.

The economic phase of botany is emphasized here in addition to the usual class-room instruction given elsewhere. The courses in agriculture (given in class room and on the farm) deal with the problems of crop production and stock-raising. Horticulture aims to lay the foundation for the successful gardener and fruit-grower. Entomology is the ally of both agriculturist and horticulturist. Veterinary science and chemistry of foods are the friends of the stock-raiser. Agricultural Chemistry gives a basis for all tillage. The course in domestic science (hygiene and cooking and sewing) are prime essentials for every woman.

Yet, after all, neither the history, personnel, nor curriculum makes the college. Its spirit is its vitalizing power. An institution worthy the name college must have its distinctive spirit, otherwise there is no reason for its existence. Many American colleges have shown notable individuality. For example, some founded under deeply religious influences have turned out a large percentage of ministers; others have produced in a marked degree literary men; still others, men prominent in public life. Each cherishes its own spirit. What is the spirit of this College? It is agricultural. Parents send their children here believing the farmer's calling to be a noble one. Constituents, alumni, and all in authority do all they can to foster that spirit. Before "extension work" became a fad, the members of this Faculty were carrying on unostentatiously "farmers' institutes" in the interest of the Kansas farmers. In addition to their regular work, they hold each winter a short course for those farmers who can come to the College. In the experiment station work it is needless to say the goal constantly in view is the farmer's advantage. An examination of the *INDUSTRIALIST*, College paper, in addition to the lines of work already mentioned will reveal how earnest, on the part of the Faculty, is the spirit for progress in agriculture.

The students also, the determining factor in college spirit, are imbued with the agricultural idea. One hour they are in the lecture-room; at the next, perhaps, some are in the shops, or on the farm, or in the kitchen. Many, even in the early part of their course, look forward to specialization in agriculture, horticulture, or domestic science, as the case may be. This all-pervading agricultural spirit is often manifested in the literary society or rhetorical work. The whole trend is practical. More frequently "Irrigation," "P. M. Industrial," or some kindred topic is discussed than "Realism versus Idealism in Fiction," or "Has America produced a Poet?" or some other literary topic not infrequently discussed in a classical college. This spirit on the part of the students was well illustrated last commencement, when one of the graduates spoke on "Good Bread" and another on "Chinch Bugs." The students come here with the agricultural spirit, and go away with it. It is in the air.

Doubtless the most definite way to determine "How Agricultural is the Agricultural College" is to weigh the results. Although our alumni are found in all the professions,—teachers from here being especially in demand,—more numerous are they in business and the trades; while most numerous of all are those graduates, who are farmers or housewives. So long as the Kansas Agricultural College pours out a stream of yeomanry patriotic and enlightened, no one can gainsay its agriculturalness.

THE WEATHER FOR THE YEAR 1894.

BY C. M. BREESE, OBSERVER.

Temperature.—The mean temperature for 1894 was 54.52°, which is 1.79° above normal. There has been but one year since 1858 with a mean temperature as high, and that was in 1860, when the mean was 57.66°. February and March were the only months whose mean temperature ranged below normal. The highest temperature for the year was 109°, on July 24th and 25th; the lowest, —14°, on January 24th—a yearly range of 123°. The hottest month was August, with a mean temperature of 79.88°; the coldest, February, with a mean of 25.38°. The latest killing frost was on May 20th; the earliest, on October 8th, the growing season

being 141 days long. The average length of the growing season is about 175 days.

Rainfall.—The total rainfall, including melted snow, was 20.88 inches. This fell as 57 separate rains and snows. The normal rainfall is 29.93 inches. This gives a deficiency in the rainfall of the year of 9.05 inches. There were but three months of the year that had a rainfall in excess of the normal for those months, and they were February, June, and September. There were 11.45 inches of snowfall, 10 inches of that being on February 10th and 11th, which was the latest snow of the season. The earliest snow was on December 11th, .25 inch falling.

Cloudiness.—The per cent of cloudiness was 28.6, which is 11.17 below normal. There were 149 days cloudless or clear; 20, entirely cloudy; 14, five-sixths cloudy; 43, two-thirds cloudy; 37, one-half cloudy; 54, one-third cloudy; and 48, one-sixth cloudy.

Barometer.—The mean pressure of the year was 28.86 inches, which is .071 inch above normal. The highest monthly mean was in February, and the lowest in October. The highest barometer for the year was 29.603 inches, on December 27th; the lowest, 28.215 inches, on February 9th --a yearly range of 1.388 inches.

Wind.—The wind was from the south 219 times; southwest, 214 times; north, 170 times; southeast, 110 times; east, 107 times; northeast, 96 times; northwest, 81 times; west, 43 times; and a calm 55 times at the observation hour. The total run of wind for the year was 95161 miles, which is 6591 miles above normal. The windiest month was April, closely followed by March. August had the least wind. The highest daily velocity was 768 miles, on February 16th; the lowest, 56 miles, on February 13th. The highest hourly velocity was 46 miles, on the afternoon of June 21th.

MONTH.	MEAN TEMPERATURE.	RAIN AND MELTED SNOW.	BAROMETER.	WIND.
	<i>Departure from Normal.</i>	<i>Departure from Normal.</i>	<i>Departure from Normal.</i>	<i>Departure from Normal.</i>
1894.				
Normal.				
January.....	25 13	1 47	— .08	1017
February.....	30 39	5 01	— .03	1047
March.....	40 44	46 04	1 10	1047
April.....	53 34	57 63	1 33	1594
May.....	63 01	64 32	1 35	1957
June.....	73 62	74 04	3 78	11226
July.....	78 45	77 88	4 45	8465
August.....	78 75	79 88	5 05	8117
September.....	76 06	79 88	6 07	7053
October.....	67 53	69 20	2 37	6150
November.....	54 37	57 39	2 97	448
December.....	39 54	35 15	2 81	473
Sums.....	29 32	35 15	— .49	7709
Means.....	62 70	64 20	— .05	6992
	52 73	54 52	— .75	7078
			— .05	6882
			— .05	7903
			— .05	6942
			— .05	5220
			— .05	6150
			— .05	7053
			— .05	8117
			— .05	8465
			— .05	11226
			— .05	1594
			— .05	1047
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*Columns headed "Normal" are averages of 37 years.

Reading Farmers.

When first commencing business a farmer should be willing to sell his produce for what it will bring, but in all cases he should use his utmost endeavors to produce the best article. This he can do to some extent by carefully experimenting, but to obtain the highest state of perfection a man must be a constant and careful reader, thus adding to his own experience the experience of others and also receiving much benefit from the investigations of scientific men like T. P. Terry, Galen Wilson, Waldo Brown, and others who contribute regularly to *The Practical Farmer*. But we often hear from the farmer the declaration "we have no time to read." "Why?" "Because we have too much manual labor to do ourselves, and if we should spend any time in reading, investigation, or experimenting, we should have to hire more men and pay more cash for the additional labor, thereby incurring an immediate financial loss." Quite true; we agree such appears to be the case but, we also know this idea is "penny wise and pound foolish," for by adhering to it we keep in the same old ruts as our forefathers. But this we can do no longer, as the soil has lost much of its virgin fertility, and calls loudly for more enlightened husbandry. We have repeatedly noticed studious young farmers who had no better school advantages and not as good financial starts in life as many others, who have in a few years taken honorable situations in our country and have been the means of elevating the agricultural standard of the United States and Canada. These men have been ridiculed as "scientific farmers," "gentleman farmers," etc., but the hard times of the last few years have shown that these men have shielded themselves from much of the evil that has fallen on the other class.

Another noticeable and praiseworthy feature in favor of the reading farmers is that their homes and farms are more beautiful and more comfortable in all ways, and if this were the only argument it should be sufficient to convince any sane man; but besides this, their families are more refined and intelligent and better fitted for higher and more useful spheres in life. The reading farmer also becomes fully conversant with each department of his business, and does nothing in the dark, a striking contrast to the non-reader, who does much at haphazard, hoping for the best results, but not knowing whether they will be obtained or not. The wisest, most useful men the world has ever known have been to a greater or less extent studious readers, and there is no calling in life which demands more careful study and investigation than that of farming. Reading will elevate the farmer from a tired drudge to an intelligent and respected citizen. Then, and not until then, will his calling receive that respect to which it is entitled, for knowledge means power.—*R. H. Canady, in Practical Farmer.*

MONTH.	No. of Rains.	Rain— inches.	Snow— inches	Percent of Cloudiness.	Pre- vailing Wind.	Tem- perature. Mean.	Maximum Temperature.	Minimum Temperature.	Max Barometer.	Minimum Barometer.
January	2	.71	1.20	29	N	26.60	74	—14	28.91	28.45
February	2	1.10	10.00	33	sw	25.38	67	—11	29.06	28.58
March	6	.67	...	25	N	46.04	86	...	28.85	28.32
April	...	1.33	...	23	N & E	57.63	92	25	28.73	28.27
May	...	3.78	...	25	N	64.32	92	30	28.78	28.31
June	12	5.05	...	30	N	72.04	99	44	28.81	28.46
July	...	2.27	...	24	N	77.65	109	52	28.86	28.04
August	...	.47	...	36	sw	77.88	107	48	28.82	28.07
September	...	3.34	...	34	N	69.29	104	32	28.80	28.24
October	...	1.69	...	22	N	57.39	93	24	28.76	28.30
November	2	.10	...	31	sw	40.92	79	6	28.93	28.21
December	2	.37	.25	31	sw	35.15	73	—4	28.94	28.29
Sums	57	20.88	11.45	343	s s s w	654.20	...	...	346.99	...
Means	...	...	...	28.6	...	54.52	...	...	28.866	...

Calendar.

1894-95.

Fall Term—September 13th to December 21st.

Winter Term—January 8th to March 29th.

Spring Term—April 1st to June 12th.

June 12th, Commencement.

1895-96.

Fall Term—September 12th to December 20st.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds a. par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address E. D. Stratford, Loan Commissioner, El Dorado, Kan.

GENERAL LOCAL NOTES.

Prof. and Mrs. Hood mourn the loss of their infant son, who died Monday.

President Fairchild went to Topeka on College business Monday afternoon.

Misses Anna and Milly Weber, of Junction City, guests of Mr. and Mrs. McCreary, visited College yesterday.

Hon. Nathan Zimmerman, of Olathe, Representative from Johnson County, is visiting his daughter Ada, a First-year student here.

F. E. Uhl, Third-year, misses recitations this week for the first time since entering with his class in September, 1892. He has the mumps.

A limited edition of the report upon the Columbian dairy tests of breeds is to be printed. Those who wish to secure the report should at once apply to the Congressman from their district before the supply is exhausted.

Prof. Hood writes in the December number of the *Rose Technic* magazine on the use of compressed air as motive power for certain uses in a boiler shop. The article is illustrated by cuts made from drawings of machines in use in the Atchison, Topeka and Santa-Fé Railroad Shops at Topeka.

The Agricultural Calendar, 1895, by Prof. F. W. Woll of the University of Wisconsin is a happy combination of calendar, account book, and memorandum, with information upon agricultural subjects in great variety. It includes in its 300 pages chapters upon farm animals, crops, feeding stuffs and fertilizers, farm management, dairying, tables of weights and values, statistics, and periodicals. The book is conveniently bound for pocket use, and is well worth its price, one dollar. John Wiley and Sons, New York, are its publishers.

Eleven members of the Third-year Class occupied the public hour yesterday afternoon in exercises named in this program: "Chrysanthemum or Rose, Which?" W. A. Cavanaugh; "Utilization of Niagara Falls," J. D. Trumbull; "Discontent," May Bowen; "Our Duty to Mother," J. M. Westgate; "Sounds from Inanimate Nature," Maggie Correll; "Education a Qualification for Franchise," J. C. Wilkin; "Plagiarism," Con Buck; "Evening Music at Sea," Minnie Pincomb; "Our Nation's Guest," A. P. Carnahan; "Sea of Galilee," Gertie Stump; "The Tramp Question," J. W. Holland. A selection by the College Band and a banjo duet by Grace Secrest and Mabel Cotton, accompanied by Lorena Helder on the piano, contributed to the interest.

On page 278 of Prof. Woll's Agricultural Calendar for 1895 a table of statistics of agricultural schools and colleges shows that the Kansas State Agricultural College stands first among distinctively agricultural colleges in actual attendance of students. Of 17,623 students reported in sixty-four colleges and universities receiving the benefit of the land grant of 1862 and the further aid by the act of 1890, only 3160 are in courses of agriculture. Of these more than one-sixth are in the Kansas College. Of the 265 graduates in agricultural courses in 1893 from the sixty schools, Kansas has credit for 39—almost one-sixth of the whole number. Is it any wonder that the success of the Kansas Agricultural College attracts attention the world over?

GRADUATES AND FORMER STUDENTS.

Porter W. Westgate and Jessie Whitney-Westgate, both Second-year students in 1891-2, rejoice in the advent of a daughter, January 27th.

A. Dickens, '93, edits the educational column of the *Bushton* (Kan.) *Star*. In the last issue of the *Star* this column is filled with good things taken from the toasts presented at the dedication banquet of the new Library and Agricultural Science Hall.

The admiration of D. W. Working, '88, for his alma mater is so well known that his declaration of a "growing" regard can only be accounted for by his being "under the ditch," in the language of the irrigator. In a recent letter to President Fairchild he says, among other things: "The *INDUSTRIALIST* came to me today. I have read nearly the whole of the proceedings of the dedication of the new hall, and was greatly interested. Somehow I seem to have a growing regard for the Kansas Agricultural College; so whatever helps to add to the facilities of the institution for usefulness and to its reputation is gratifying to me. I should like to meet the men who have had so much influence in making my alma mater what it is. It may be that my turn will come in good time. I wish you the largest and best success in your work. May the College grow and flourish; and may you be spared to guide its destinies for many years."

FARMERS' INSTITUTES.

Held Under the Auspices of the Agricultural College.

Institutes will be held at the places and dates as stated below, and the College will be represented at these institutes by the members of the Faculty named:—

Oak Grove, Shawnee County, February 6, 7; Prof. Walters and Mr. Sears appointed.

Hutchinson, Reno County, February 7, 8; Professors Hood and Graham appointed.

Russell, Russell County, February 7 and 8; Mrs. Kedzie and Professor Mason appointed.

Peabody, Marion County, February 14 and 15; Professor Popenoe and Mrs. Kedzie appointed.

Clay Center, February 15 and 16; President Fairchild and Professor Lantz appointed.

Haven, Reno County, February 21 and 22; Professor Mayo and Mr. Burtis appointed.

Cherryvale, Montgomery County, February 21 and 22; Professors Popenoe and Georgeson appointed.

Gaskill, Washington County, February 28 and March 1; Professors Walters and Mason appointed.

WaKeeney, Trego County, March 1 and 2; Professors Georgeson and Graham appointed.

"Student Life at Manhattan."

Orange Judd Farmer of January 27th publishes a most excellent article under the above caption from the pen of T. W. Morse, a member of the Fourth-year Class. The life of the student is portrayed in characters which will be recognized as the "real thing" by those most familiar with it. The article is here reproduced in full:—

"Manhattan, Riley County, Kansas, one of the oldest and prettiest towns in the State and of some importance historically, is chiefly interesting on account of an institution which has grown up with, or rather beyond it, namely the Kansas State Agricultural College, the largest school of its kind in the world. A faithful description of life at our College would have to treat of the town and its people, for Manhattan is one big students' home.

"The town is dilated, as it were, around its edges with vacant lots and truck patches until it blends easily with the surrounding country, so that the boy from the farm who instinctively walks 'cross lots,' naturally finds it hard to confine himself even within the city limits.

"Life with us is not merely an existence in class and study rooms. Studies call for a good deal of walking and sunburn and fresh air. Bluemont, the Canon, Wild Cat Creek, and many other places have long been the haunts of w. uld-be and have-to-be naturalists as they gather their treasures of plants and bugs, sometimes making their work an excuse for a picnic, sometimes forgetting themselves and studying nature of their own accord, seeing for the first time beauties they had grown up among. The extent of such experience varies more perhaps with the students here than in any other college. The Faculty gives you your work, puts you on your good behavior, and jointly you furnish results.

The students live in town, and not at the College. They find board and lodging to suit their tastes or pocketbooks, with private families or in boarding houses. Some rent rooms and board in students' clubs, where they pay a matron for cooking and dining-room service. Many students support themselves wholly or partly by working afternoons, doing most of their studying at night. There are no rules concerning study hours. In fact, rules of any kind except the very general ones that apply to all communities are seldom heard of. Not that fun or lovers of fun are at all rare. Almost any boarding place has its legends of pantry raids, burglar alarms, and May-basket carnivals, and from time to time ingenious hands and minds have found expression in a less local way. But most students appreciate their opportunities too well to spend much energy on anything else. Their conduct generally is more that of rather young and good-natured business men and women, who have their work sufficiently in mind to prevent any great digression, but not too much, so as to allow enjoyment of such pleasures as come in their way.

"Five mornings in the week when the College bell rings for 8 o'clock these business people may be seen moving along the streets which lead toward the College grounds. In twenty minutes the walks and drives are thronged with students, and by 8:30 the halls are full of them, laughing and talking, gathering in groups and around the radiators and stairways or crowding about the postoffice window. As the last bell stops ringing they pour into Chapel for morning exercises, though attendance is not compulsory. Here, led by the orchestra, the whole assembly stands and sings. The music is not classical, perhaps not even musical in some parts of the house, but to a new student I believe it is always grand, and to anyone who stands up with the five or six hundred fellows and teachers and goes through the motions it is certainly pleasant and makes him feel more in harmony with his surroundings for the rest of the day. The song is followed by reading and prayer. Then a 'gentle admonition' or two from the president or a speech by some distinguished visitor, and the crowd surges out into the halls and to classes.

"The ordinary recitations and class work are familiar enough, but some other kinds of work may be not. The carpenter shop is alive with boys working at benches and lathes. In another building a class is learning to graft—at the expense of a few fingers and thumbs, of course,—but learning all the same. A squad of surveyors with their instruments are 'running a line' across the campus, and from some window comes the sound of a piano patiently

yielding up the scale. In the chemical laboratory a class, wearing big aprons, with their blow-pipes and acids, get all kinds of reactions and smells from the substances under treatment. Now and then you hear a scream caused by a splash of acid, or bangs too near a gas jet, or see a professor laughing over some new and wonderful precipitate, but otherwise the class is as quiet as an ordinarily well-behaved Sunday school. In another building another class, also uniformed in big aprons, work over ovens and boiling pots and produce a much more agreeable variety of smells. Across the hall from the kitchen is the printing shop, and above it the sewing room, each with its class of 'industrials.'

"At 1 o'clock business ceases for a half hour. Many go to their homes, some have gone an hour before. There is a change of program for the afternoon. In the iron-shop you hear the clang of anvils, the whir of machinery, and the sputtering of melted iron; the college battalion, uniformed and armed, drills for an hour each day; two or three times a week the orchestra and band practice in the chapel, and almost any day squads of boys in blue overalls may be seen about the fields and gardens, performing the feats usually stigmatized under the name of 'P. M.'

"This is the particularly agricultural feature of the course. Two terms out of the twelve the young men are required to work five hours a week of the afternoons on the farm and in the orchards and gardens. There is a traditional prejudice against this, but it is nothing more. The behavior of the industrial classes is anything but sorrowful. There is plenty to be learned, and if the enjoyment does not equal the discomforts by the end of the term, the 'P. M. banquet' with which they celebrate their emancipation far more than makes the difference.

"This leads to the subject of amusements. I can barely mention the 'term socials,' class parties, and student dances which furnish the social side of our education. There is much that might be said of them, and many are the small romances that grow up, die out, or 'get worse' during the short years of a college course. The four college societies make up the most useful and enjoyable features. They are not secret. They are too American for that.

"And right here the Kansas State Agricultural College has taken a step in advance of other schools. There is no foundation here for the idea that the man of the college belongs to a separate genus. Contests of any kind are entered into more for the sake of the activity than for the 'beating' of anyone. Feeling between classes goes no further than a good-natured quizzing. There is plenty of innocent fun which often runs into the ridiculous, but not the barbarous. Rushes and hazing were never known here. All through the course our student citizens keep in touch with the world, and when they finish find little trouble in making themselves useful to the State that educates them."

Short Course for Farmers.

TUESDAY, FEBRUARY 5th.

1:30 P. M. President Fairchild, Intellectual Growth in Farm Homes.

3:00 P. M. Professor Fairlyer, Origin and Properties of Soils.

WEDNESDAY, FEBRUARY 6th.

10:30 A. M. Professor Hitchcock, Fungous Diseases of Field and Garden Crops.

1:30 P. M. Professor Popenoe, General Considerations in Economic Entomology.

3:00 P. M. Professor Georgeson, Origin and Characteristics of the Leading Breeds of Cattle.

7:30 P. M. Hon. C. B. Hoffman of Enterprise, Farmers' Wives.

THURSDAY, FEBRUARY 7th.

10:30 A. M. Professor Lantz, Agricultural Literature.

1:30 P. M. Professor Georgeson, Principles of Selection and Breeding Live Stock.

3:00 P. M. Professor Mayo, Some Hereditary Diseases of Animals.

FRIDAY, FEBRUARY 8th.

10:30 A. M. Professor Hood, Pumps and Power.

1:30 P. M. Professor Fairlyer, Water for House Use.

3:00 P. M. Professor Popenoe, Farm Insects.

7:30 P. M. Hon. Harrison Kelley of Burlington, Science of Money.

SATURDAY, FEBRUARY 9th.

10:30 A. M. Professor Willard, Nitrogen in some of its Relations to Agriculture.

1:30 P. M. Professor Hitchcock, How Plants obtain their Food

MONDAY, FEBRUARY 11th.

10:30 A. M. Professor Mayo, Parasitic Diseases of Animals and Their Treatment.

1:30 P. M. Professor Mason, Propagation of Orchard Trees.

3:00 P. M. Professor Walters, The Home Lot.

7:30 P. M. A. E. Jones of Topeka, The Dairy Cow.

TUESDAY, FEBRUARY 12th.

10:30 A. M. Professor Georgeson, Principles of Feeding Live Stock.

1:30 P. M. Professor Kedzie, Meats.

3:00 P. M. Professor Popenoe, Beneficial Insects.

7:30 P. M. Hon. T. M. Potter of Peabody (President State Board of Agriculture), Our Heritage.

WEDNESDAY, FEBRUARY 13th.

10:30 A. M. Professor Will, Money. I.

1:30 P. M. Professor Graham, Farm Accounts.

3:00 P. M. President Fairchild, The Farmer Makes His Farm.

THURSDAY, FEBRUARY 14th.

10:30 A. M. Professor Mason, Varieties of Vegetables for the Farm Garden.

1:30 P. M. Professor Mayo, Contagious and Infectious Diseases: Their Cause and Prevention.

3:00 P. M. Professor Georgeson, Necessity for Maintaining the Fertility of the Farm.

7:30 P. M. Judge J. S. Emery of Lawrence (Lecturer National Irrigation Association), Irrigation.

FRIDAY, FEBRUARY 15th.

10:30 A. M. Professor Mason, Soil Management and Irrigation in the Garden.

1:30 P. M. Professor Hitchcock, Relation of Plants to Climate.

3:00 P. M. Professor Will, Money. II.

7:30 P. M. Hon. W. J. Bailey of Baileyville, The Practical Use of Irrigation to the Farmer.

SATURDAY, FEBRUARY 16th.

10:30 P. M. Professor Georgeson, Home Dairying.

1:30 P. M. Professor Mason, Fruits for Home Use and Market.

COLLEGE ORGANIZATIONS.

January 26th.

At the usual time the Hamilton Society was called to order by President Johnson. The rollcall showed fifty-six members present. W. O. Peterson offered

prayer. The Board of Directors, consisting of R. J. Barnett, C. S. Marty, G. C. Hall, J. Poole, and L. G. Hepworth, were then installed for the present term. C. B. Cochran, A. D. Whipple, E. R. Barker, and J. M. Wheeler became members of the Society. The program of the evening opened with an essay by J. W. Adams upon his experience as a herdsman. G. F. Farley read a real funny piece upon the sad but sure curing of a sheep-killing dog. The current events of the week were related by E. C. Joss. Wm. Anderson discussed concisely the steam carriage as it is used at present in France. The debate was upon the subject, "Resolved, That a nation's character is influenced more by the physical conditions of the country than by the morals of the people," and was argued by C. D. Adams and F. V. Dial in the affirmative and by B. W. Conrad and W. K. Blachly in the negative. The Recorder was ably edited under the significant motto "Woe be unto the tattler." E. Enrick was editor.

January 26th.

The Webster Society was called to order by President Morse at 7:30. Invocation by G. C. Wheeler. The Society roll was enlarged by the following names: D. I. Tawler, F. H. Day, E. S. Carman, D. L. Zerke, O. O. Wolf, W. H. Tunison. The question, "Resolved, that the prohibition amendment to the constitution should be resubmitted," was debated affirmatively by I. A. Robertson and R. M. Lee, and negatively by D. T. Davies and Geo. McDowell. The affirmative argued that the amendment restricted the rights of citizens. Society is becoming more refined, so we need no prohibitory law. The law, not being enforced, is worse than no law; the manner of obtaining liquor makes sneak thieves. The negative held if society is growing better, it could see the fallacy of man abusing his liberty. The law is broken, occasionally, but is better than no law. The law aids the young in making it more difficult to obtain liquor. A man that will sneak after liquor was a sneak originally. The decision was in favor of the negative. J. R. Henry read a selection, "Valley Forge." J. E. Trembley recited the famous selection, "Ambition of a Statesman," with Clay's oratory, beyond the ambition of the senior. F. R. Jolly had an excellent issue of the Reporter. A selection worthy of Longfellow's pen was a piece on "Experiment in Physics" written in the Hiawathan strain. J. A. Gordon recited "A Patch of Ice" in such a way as to show the funny side of a fall. The Webster quartette entertained the Society with one of their large number of selections. In the discussion, D. M. Steele talked of the same question the debaters exhausted. E. G. G.

January 26th.

At the usual time President Patten called a goodly number of Ionians to order. After singing, Ada Rice led in devotion, followed by roll call. We then listened to a piano solo by May Bowen, after which Dora Thompson was installed as critic for the term. Hattie Yenawine was initiated, thus adding one more to the list of Ionians. The program was then opened with a declamation by Hilda Olson, after which Mr. Selby favored the Society with a cornet solo, accompanied by his sister on the piano. Original story, Myrtle Hood. Next was a piano solo by Anna Dahl. "A Love Scene and Tragedy" was presented by Mabel Selby and Tacy Stokes, and the Society may well feel proud of the originality of the Ionians. Harry Brown favored the Society with a violin solo, being accompanied by Miss Helder on the piano. An excellent number of the Oracle was read by its editor, Sue Long, having for the motto, "He who does the best he can, does well, acts nobly; angels could no more." The discussion on the subject, "Is pauperism as great an evil to society as illiteracy?" was led by Hortensia Harman on the affirmative and Olive Wilson on the negative. It showed much thought and careful preparation. We then listened to a banjo solo by Henry Stingley, and as it was growing late, the remainder of the program was postponed one week. After a short recess the usual business was enacted. Miss Correll then read a very entertaining letter from a former Ionian, Ivy Kellerman, after which the Society adjourned.

M. H. H.

January 25th.

The program of the Alpha Beta Society was opened with a violin solo by Geo. W. Fryhofer, Nora Fryhofer at the organ. R. W. Clothier led in devotion. The Society was then favored with a vocal solo by Miss Helder, accompanied on the organ by Miss Leicester. Gertrude Shofe was elected a member of the Society. Josephine Wilder delivered a declamation entitled "Nothing to Do" in an excellent manner. In an essay written on the subject "Our Society" Mary Padelford spoke of the good qualities of our Society, also some of the difficulties encountered in society work. The subject for debate was stated as follows: "Resolved, that the Legislature should appropriate means to erect a Domestic Science building here." It was debated on the affirmative by May Willard and Kate Zimmerman; on the negative by Elva Palmer and Florence Martin. The affirmative thought such a building ought to be erected for the convenience of the departments of Cooking and Sewing, if for no other reason. The need of a larger dairy is also felt, and the crowded condition of the kitchen and dining room when lunch is served makes the work difficult. The negative stated that it would be unwise to ask the State for an appropriation just after the expense of building Science Hall. Also that there are other State institutions that need the appropriation more, such as the Deaf and Dumb Asylum at Olathe and the Insane Asylum which were compelled to turn away some of their applicants for lack of room. Miss Havens, editor of the Gleaner, was unable to be present, so the paper was read by R. W. Clothier. Messrs. Spaulding, Smith, and Clothier then sang a trio. After recess, T. L. Jones made an interesting speech on "Prohibition Kansas." Mr. Claus favored

the Society with a violin solo, responding to a hearty encore. After transaction of business, the Society adjourned.

N. F.

The Trained Mind.

There are two great things that education should do for the individual—it should train his senses and teach him to think. Education, as we know it to-day, does not truly do either. It gives the individual a vast accumulation of facts, unclassified, undigested, and seen in no true relations. Like seeds kept in a box, they may be retained, but they do not grow. For years the mind is filled with facts which the mind is not trained to digest. To the physical body food is of value only when it is digested, so it is in the mind with mental food; but if digestion were made continuous, perfect, and ever equal to the supply of food, over-feeding either the mind or body would be impossible. But in the education of to-day the digestion is not equal to the feeding. It is like putting food into a refrigerator—the refrigerator itself is not strengthened.

The greatest educational need of the individual is a mind—a mind that is ready on the instant, not the next day. With most persons the intellectual brilliancy, the proper thing to say, comes as an afterthought. An afterthought is but a beautiful possibility, designed to fit a lost opportunity. It is no more helpful to a man than a flattering epithet on his tombstone. With most persons this wit is like a night telegram—it is not delivered until next morning.

Man expects his hand to be instantly ready to perform any motion of which it is capable; but he is resigned if his mind does not act quickly. He says that readiness is born with people. It cannot be acquired. If a man's heart, lungs, or stomach are weak, he consults specialists, and never gives up until he finds relief. But if he cannot remember names or faces; if he is subject to that intellectual remorse known as afterthought; if he has no eye for color or taste for music; if he has no command of language; if there is lack of power in any respect in his mind, he is perfectly resigned, and says, "I am as God made me, and so I must remain." When man fails he always does this. He says, "I am as God made me;" but when he succeeds he proudly proclaims himself a "self-made man." It is not necessary to submit to any mental weakness. Training will do even more for the mind than for the body.—William George Jordan, in *New Science Review*.

Superiority Has Its Own Reward.

"In France a ballet-dancer of the first class earns from \$120 to \$300 a month. A star in the ballet has at least an income of from \$5,000 to \$10,000." I quote this from the *Orange County Farmer*; but I do not know whether the statement was made to show that ballet-dancing pays better than farming, or as a proof that superiority has its reward. If the former, I am inclined to contradict it; if the latter, I feel like giving it endorsement and emphasis.

The pay of the inferior or average run of ballet-dancers is by no means brilliant. Neither is that of the inferior or average soil-tiller. It takes a ballet-dancer "of the first class" to earn from \$1,500 per year upward, and a "star in the ballet" to earn over \$5,000 a year. The soil-tiller is by no means worse off. There are thousands of "farmers of the first class" whose income is from \$1,500 upward, and there are "stars" in farming, gardening and fruit growing who have an annual income of from \$5,000 to \$10,000, all from the soil. In this respect, therefore, ballet-dancing surely has no advantages over tilling the soil, nor over many other occupations. We may accept it as a fact that the man who does poor farming, the woman who is in poor form and does inferior dancing, the mechanic who turns out poor work, or the singer who sings badly, all will have poor pay.

To earn good wages, one has to do good farming, good dancing, good mechanical work, or good singing, respectively. And surely there are as many well-paid "stars" in farming, gardening, and fruit growing as there are on the ballet. Unfortunately we cannot all be stars—we are not all built that way—but we can try to do superior work in tilling the soil, better work, at any rate, than the non-reading, non-thinking average, and thus we can secure fair play for our efforts.—*Farm and Fireside*.

A story with a valuable moral attached to it is told as follows: An Irishman, a farmer who had the reputation for growing the largest crop of the best potatoes, was visited by a neighbor who wanted to discover the secret of his success. He found him busy in the field with the hoe, bright by use, and the wife "helping him." "Dennis, how is it you get such a lot of fine potatoes?" "Sure, an' it's the hoeing I gives 'em," he replied. "Faith an' it's so," said Bridget. It's Biddy, now we've got to the end, let's begin again; and we never stop from the day he plants till the day he digs 'em." "True for ye, Biddy; they gets no rest and they're growing all the time." The neighbor took the hint, and now he grows great crops, too. There is a great truth at the bottom of this discovery, and it applies to all this kind of crops. I have been in the habit of going through my corn once a week, beginning on Monday, if the weather is favorable, weeds or no weeds, and for years past my average yield has been not much less than 80 bushels shelled to the acre, and three or four times it has exceeded 100 bushels, once getting up to 125.—*T. B. Terry*.

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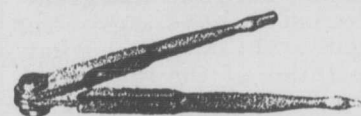
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